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The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LONDON, SATURDAY, MARCH 25, 1865.

STAMPED.....SIXPENCE.
UNSTAMPED..FIVEPENCE

Mining Exchange, London.

MINING EXCHANGE, LONDON.—I am instructed by the Committee of the Mining Exchange to state that Mr. Matthew Greene, whose advertisement appeared in the MINING JOURNAL of the 18th Inst., as of "9, Gracechurch- and Mining Exchange, London," is not, nor ever was, a member of this institution. W. E. JOHNSON, Secy.

Mr. JAMES CROFTS, SHAREBROKER,
No. 1, FINCH LANE, CORNHILL.
(Established 22 years.)

Holders of mining shares DIFFICULT OF SALE in the OPEN MARKET may find purchasers by negotiation, through Mr. Croft's agency. Also, parties requiring ADVICE how to act as to the DISPOSAL, or ABANDONMENT, of doubtful mining stocks may profitably avail of Mr. Croft's long experience on the market in all cases of doubt or difficulty.

SPECULATIVE SHARES AT NOMINAL PRICES:—140 Vale of Towy, 1s. 9d.; 25 North Bassett, 17s. 6d.; 20 Wendron Consols (an offer); 35 East Treskerby (an offer); 20 Wheel Hartley, 3s. 6d.; 2 East Bassett, £20.

* BUYER of 200 East Seton at 3s. Wheal Hope, North Miners (20s. paid).
* GATES CONSOLIDATION MINE, parish of St. Hilary, Cornwall, in 2048 shares. Mr. Croft has business in the same.

* Mr. Croft draws attention to his letter of last week, wherein he wrote:—"East Bassett: A rally in the price sooner or later is a certainty." The shares were then £15 to £17, and now £22; buyers: they will advance to £50.

MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.

JAMES LANE HAS FOR SALE at nett prices:—5 Basset and Grylls; 25 Bedel-Aur,

12s. 6d.; 20 Crever and Abraham; 20 Carn Camborne, 2s.; 20 Calstock Consols, 1s. 6d.; 50 Dale, 9s.; 10 East Lovell, £12s.; 20 East Russell, £4s.; 50 East Jane,

2s. 6d.; 100 East Laxey, £2; 20 East Treskerby, £2s.; 10 Frank Mills, £6s.; 50 Gothic, 1s.; 50 Great North Laxey, £2; 20 Haven, 3s.; 20 Kelly Bray, 2s.; 20 Halle-

begle; 50 Lady Bertha, 3s. 6d.; 10 Mandrin, £5s.; 10 North Treskerby, £2s.; 6 North Bassett; 50 North Devon, 3s.; 25 New Wheal Martha, 3s.; 35 New South Caradon, 3s. 6d.; 30 North Jane, 1s. 6d.; 40 Polard, 1s.; 5 Rosewarne Consols, 3s.; 5 Rose-

wars United, 2s.; 50 Sotridge, 1s. 6d.; 20 South Lovell, £2s.; 20 South Darren,

2s.; 100 Vale of Towy, 2s.; 50 Silver Mountain, 4s.; 20 South Union, 1s. 6d.

JAMES LANE is a BUYER of Great North Downs, East Carn Brea, East Seton.

MR. WILLIAM LELEAN (Member of the Mining Exchange), has FOR SALE the FOLLOWING SHARES, at nett prices:—

5 Great Fortune, £5. 5 South Carn Brea, 10s.

30 Great South Chiverton, 50 So. Condurrow, £5s. 6d.

5 Clifford Amal., £30 11 3 20 South Darren, £2s.

15 Chiverton, £2. 15 Hallebeagle, £2s. 9d.

5 Cook's Kitchen, £5 18s. 20 Kelly Bray, 3s. 3d.

5 Croft's Kitchen, £5 18s. 20 Lady Bertha, 7s.

20 Livermore, £2s. 15 Mandrin, £5s.

20 Long Rake, 50 London and Liverpool Hotel (£5 paid), £2s.

20 Mandrin, £5s. 5 Mineral Bottom, £4 16 9

20 Maudlin, £5s. 50 New Birch and Vififer, £1 16s.

20 Maudlin and Abraham (an offer wanted). 50 North Bassett, 17s. 9d.

20 Maudlin, £5s. 5 North Pool, 20s.

20 North Devon, 20s. 100 North Devon, 20s.

20 North East Russell, 2s. 20 North Frances, 1s.

20 North Frances, 1s. 20 North Great Laxey, £12s.

20 North Great Laxey, £12s. 20 North Lovell, £12s.

20 North Lovell, £12s. 20 North Rosewarne, £2.

20 North Rosewarne, £2. 20 North Treskerby, £2s.

20 North Treskerby, £2s. 20 North Union, 7s.

20 North Union, 7s. 5 North Union (an offer wanted).

20 North Union, 7s. 20 North Union, 7s.

Original Correspondence.

ON THE FORMATION OF COAL.

SIR.—Having read the observations of Mr. Goodall on the probable causes of the Formation of Coal, as they appeared in the Journal of March 4, I am inclined to think that they will not be generally accepted as a satisfactory solution of the question, since they are expressed in too general terms to impress the mind with any conviction of their truth, as otherwise might have proved the case had he entered into a more detailed account of what he considered may have been the successive transformations coal has undergone ere it became the mineral origin of which is involved in so much obscurity.

Now, a consideration of the various possible transitions of organic and other substances until their conversion into a state of coal, has led me to the inevitable conclusion that coal existed originally, in one of its intermediate stages, in a state of oil; and that this oil was formed by a process of natural distillation induced by the development of a great amount of heat in vegetable, animal, and mineral matter in a state of decomposition.

This theory may at first sight appear somewhat improbable, considering that the oil known to exist in the interior of the earth has latterly been supposed to be distilled from the coal and bituminous minerals existing therein also; but the two ideas are not at all inconsistent, especially as regards the more bituminous minerals; for these being, as I am led to conceive, merely the result of a process of natural destructive distillation of the original oil, it is perfectly in accordance with what takes place when this process is carried on by human agency, that a residue of oil should at times be left in the mineral; and though, I apprehend, does not prevail to the same extent in coal as it does in bitumen, it is not at all inconsistent with the theory I advocate, that it should do so in some degree; for coal, if my conclusions prove correct, will be found to be nothing else than solidified bitumen or asphaltum, which by the absorption of more carbon, and the diminution of its hydrogen and oxygen, caused by the heat and pressure resulting from chemical action, has been transformed into coal. It has been stated by Dr. Paul, in a lecture on Artificial Light and Lighting, delivered at the Society of Arts on March 30, 1864:—

"That all organic substances which are not themselves volatile, such as wood, flesh, and other vegetable and animal substances, yield, when subjected to the influence of heat below full redness, tarry oils, which have in all cases the same general character and similarity to petroleum, differing only according to the specific differences in the materials from which they may have been obtained. The various kinds of bituminous minerals met with chiefly in the coal measures, and to some extent in other geological situations, also yield, under similar conditions, oily products of the same general character. This fact at once becomes intelligible when it is remembered that the bituminous portion of the minerals from which such products are obtainable has originated from the same kind of animal and vegetable substances that are met with in nature."

Now, it requires no great stretch of the imagination to assume that if both oil and mineral have precisely the same origin, from organic substances, and those, as Dr. Paul intimates, in all probability for the most part vegetable, that the mineral may really be the product of the oil, and not the oil of the mineral. Dr. Paul, indeed, approaches so near to the same conclusion as to state "that the connection between bituminous minerals and the various kinds of petroleum is of such a nature that, in all probability, they should be regarded as of simultaneous origin." And, still more, he points out that "exhalations of marsh gas always accompany the discharge of petroleum from natural springs."

Now, marsh gas, consisting of carbon and hydrogen, of 3 to 1, is always produced in putrefaction, and by the action of heat on organic substances. From which circumstance, combined with the one previously mentioned, it may safely be concluded that hydrocarbon oils are the first result of the action of heat developed by the decomposition of organic substances. All hydrocarbon oils, as Dr. Paul states, hold more or less a kind of pitchy substance in solution, which gives to these liquids their black and tarry appearance. It consequently appears evident that when the volatile parts of the oils by the action of long-continued heat evaporate, that this pitchy substance will eventually be concentrated, become a thick viscous paste, and ultimately harden, when the heat ceases. Does not the existence of similar deposits in various parts of the world, and notably in the Island of Trinidad, directly point to such a conclusion? Mr. H. W. Bristol, in his "Glossary of Mineralogy," says:—

"The Pitch Lake of Trinidad, three miles in circumference, covers an area of 99 square miles, and is of unknown thickness. The bitumen is solid and cold near the shores, but gradually increases in temperature and softness towards the centre, where it is boiling. The solidified bitumen appears as if it had cooled, as the surface boiled, in large bubbles. The ascent to the lake from the sea, a distance of three quarters of a mile, is covered with a hardened pitch, on which trees and vegetables flourish, and about the Point La Braya the masses of pitch look like black rocks among the foliage. The lake is underlaid with a bed of mineral coal."

This lake, according to Mr. G. P. Wall, yields three kinds of asphaltum:

1. Asphaltum giance, which is hard and brittle, of an intensely black, brilliant lustre, and eminent conchoidal fracture. It contains but a small proportion of earthy impurity, and only a little water. This is the rarest and most valuable kind.

2. Ordinary asphaltum, of a brownish black colour, dull, and generally with an even fracture. It contains 20 to 35 per cent. of earthy admixture, a considerable proportion of water, and possesses the property of plasticity, which it gradually loses on long exposure to the sun and atmosphere.

3. Asphaltic oil, occurring associated and diluted with water, but when concentrated it appears as a dense black fluid, with a powerful bituminous odour. If collected in an open vessel the more volatile part evaporates after a few months, leaving a solid black substance, of similar appearance, and with properties analogous, to those of asphaltum giance."

Need more be added to prove how by a series of transformations the original organic substances have passed from a state of decomposition into another of oil, which gradually is freed from all impurities, concentrates, hardens, and finally becomes a brilliant black bituminous mineral? Surely not; and it will, therefore, now only be necessary to consider how this mineral passes into a state of coal. And it may here be opportune to remark that the only difference between the two minerals, bitumen or asphaltum and coal, consists in a variation in the amount and proportions of the elements of which they are composed, which are otherwise exactly the same.

Thus, to take only one example of each:—Anthracite coal contains of carbon, 90; hydrogen, 2·40; oxygen and nitrogen, 3·69; and Albert coal (so called), which is a bituminous mineral, that occurs at Hillsboro', in the province of New Brunswick, and has (according to Dr. Abraham Gesner, from whose practical treatise on "Coal and Petroleum") I extract the above quantities) all the essential properties of asphaltum, while it is void of those which constitute true coal, contains of carbon, 85·400; hydrogen, 9·200; nitrogen and oxygen, 5·282; sulphur, a trace; ash, 0·120.

Now, from the above comparison it will be seen that an increase of carbon and a diminution of hydrogen and oxygen transforms the asphaltum into coal. And the simultaneous increase and diminution of these elements in the respective minerals has been confirmed by the repeated observation, that the older the asphaltum the greater its loss of oxygen, the older the coal the more carbon it contains. And the existence of coal underlying as described the Pitch Lake of Trinidad is conclusive evidence of the transformation indicated. But there are proofs also of a more general kind, which tend to confirm what has already been said as to coal having originally been in a liquid state of oil. For if the several conditions observable in coal beds, and arranged in a condensed form under seven heads by the late Mr. G. F. Richardson, be examined, it will be found that the theory now in question is conformable to them in every respect. Thus:—

1. It is consistent with the purity of coal, for all impure or foreign substances which did not decompose would most likely be of greater specific gravity than oil, and consequently sink to the bottom. Besides, by the description already given of asphaltic oil, it will be seen how the impurities disappear as it concentrates by evaporation.

2. The generally uniform thickness of each seam of coal is perfectly in accordance with the idea of a liquid ultimately condensed.

3. The exceeding minuteness of many of the coal seams, which thin out into mere filaments over extensive areas of solid rock, is evidently a characteristic feature of an oily liquid overflowing the ground, and being converted first into a paste, then hardening.

4. On the other hand, the size of many of the coal seams is perfectly consistent with the idea of a deep lake filled with oil, that ultimately solidifies, such, for instance, as appears to be the case with the Pitch Lake of Trinidad.

5. The high state of preservation in which many of the plants occur, which seem to have been buried on the spots where they lived and died. In reference to this, it is only necessary again to call attention to the description already given of the Pitch Lake of Trinidad. In this lake we find trees and vegetation growing on the hardened pitch, whilst other pitch in a state of ebullition is not far distant. It does not, therefore, seem at all an improbable occurrence that the former kind should at times be softened and melted again by an eruption of the latter, causing the soil and all it bore to be engulfed in the pasty mass. And it is conceivable that trees and ferns enveloped in such a composition might be preserved from complete decay; for it must be recollect that this very substance, asphaltum, was of old used by the Egyptians for embalming and preserving their dead.

The 6th condition need not be noticed, as it is only cited as an objection to the drift theory; whilst the 7th and last, which refers to trees being found erect in coal measures, is consistent with the idea that some of the pitch, in the Lake of Trinidad for instance, may have overflowed its banks, and submerged the adjacent trees and vegetation, thus reversing the process suggested in reference to condition 5. Besides all these

conditions, it has been discovered, by continual observation, that all, or nearly all, the coal formations are basin-shaped, with long and sloping sides, dipping down to a common and profound centre. Now, this fact alone is a strong proof in favour of the theory I have been endeavouring to develop, for a basin-shaped formation is in complete accordance with the known formation of lakes in general, and, therefore, likely to be the shape of the Pitch Lake of Trinidad, the more especially as its centre continues in a state of ebullition, whilst its sides have already hardened.

From all this, I think there is the strongest probability that the formation of oil in the first instance is the real cause of the ultimate formation of coal.

In conclusion, I may observe that the circle of Nature's process, after the transformation of the soil, with its vegetation, into bituminous rocks seems to be completed by the latter being submerged, as is the case in Trinidad, where they have been partially covered by the sea. For this may tend to the formation of fresh soil, and the ultimate growth of vegetation.—Great Coram-street, March 18.

WILLIAM YOUNG.

OIL SPRINGS.

SIR.—It is rather remarkable, in these days of speculation, that no attempt should have been made to ascertain whether there exists beneath the soil of this country any sources of mineral oil similar to those which have of late years deluged America with petroleum, raising the price of land in certain districts to a fabulous extent, and placing enormous fortunes in the hands of such capitalists as have invested in the speculation. There are in this county alone (Shropshire) several bituminous springs, answering closely in physical character to the description of those found in the celebrated Oil Creek Valley, and many others appear to be scattered throughout the kingdom; it seems reasonable to suppose that Artesian borings conducted in the neighbourhood of these wells might lead to the detection of reservoirs of petroleum of similar character, and perhaps extent, to those which have been opened in the former locality, which is now the centre of the oil trade of the United States.

Such a discovery as this would add immensely to the mineral wealth of the kingdom, would go far to compensate, both directly and indirectly, for the threatened failure of the coal measures, and might, indeed, be the means of indefinitely postponing that calamity. THOMAS P. BLUNT.

Shrewsbury.

GOLD IN WALES.

SIR.—It may interest some of your readers to know that in Merionethshire more than twelve thousand ounces of Gold have been obtained from about 4300 tons of quartz, &c.

T. A. READWIN.

Stretford, Manchester, March 23.

SLATE QUARRIES AS AN INVESTMENT.

SIR.—There are several things in the last letter of "A Man of Experience" which appear to me little more than quibbles; such are the following:—"A few words, not brought out by, but by 'A Man of Experience,'" the contrast at most between the words "odd" and "strange," and my omitting the words "of Cader Idris, in Merionethshire."

There are, however, one or two material points which call for an answer from me; and, FIRST, I must maintain that *practically* (and in that way I have tried throughout to treat the subject) there are only three colours of slates—1, green; 2, blue; 3, red. "A Man of Experience" is obliged to allow that at the leading quarry in Wales what he calls *purple* are called *blue*, so that, in fact, he has answered his own arguments, but they are called *blue* at the Llanberis quarries also. Your readers will know that the colour which men call *blue* the ladies call *purple*; and as three sizes of slates are made, called Ladies, Broad Ladies, and Little Ladies, we may fairly assume—First, that they first introduced the name of *purple*; and, second, that "A Man of Experience" must, *ex necessitate rei*, be a ladies' man, and so show fight for them and their colour, whether they be tall, broad, or short. If "A Man of Experience" thinks himself entitled to call the owners of the two great Welsh slate quarries to order for not understanding the colour of their slates, I am not disposed to intervene.

SECOND, as to the dip of the Merionethshire vein. The quarries I saw there were the property of Mr. Greaves, at Festiniog, and "are at an angle of 4° to 5°, or nearly horizontal." But I said they were "chiefly" at that angle in Merionethshire, and for the two following reasons:—1. That I asked Mr. Greaves' quarry captain whether the dip was generally the same in Merionethshire as theirs, and he said "He thought it was, but it differed in some places."—2. That I have seen the same dip on the surface, *I think*, near Festiniog, but certainly about the boundary line between Merionethshire and Denbighshire.

I wish, as much as "A Man of Experience," to counteract "awful swindling," and in order to do so I laid down in my pamphlet many rules by which I think "any practical man of business" might escape its effects.

I perfectly agree with your correspondent that "a really good slate quarry is, perhaps, the most lucrative investment in the market." He might have communicated his name to me in confidence had he wished to do so, but as he has not done it, I have no desire to press the matter on him. He has a perfect right to preserve his *Editorial incognito* if he pleases. *A practical result, for the benefit of practical men of business*, has been my object from the first. JOHN BOWER, D.C.L., Beaumaris.

Manager of the Snowdon Slate Quarries Company (Limited).

THE NEW PARTNERSHIP BILL.

SIR.—"Great cry and little wool" seems to be an apt adage for characterising our modern legislative efforts; and of this the new Partnership Bill is a fresh illustration. Again and again has the demand been made that our Law of Partnership should be amended by the introduction of provisions similar to those of the French law on *Commandite*. That thoroughly practical Member of Parliament, Mr. Wm. Scholefield, made several attempts to effect this object, but without success; and now we have a bill introduced into the House of Commons, by Messrs Dodson, Milner Gibson, and Hutt, professedly dealing with the same question, and supposed by many to effect the desired object, but which will, I fear, be found only a very lame affair after all.

The bill enacts that no "loan" of money to a person in, or entering into, "trade" (why not into any business undertaking?), which loan is to bear interest at a rate varying with profits, or where a share in profits and losses is to be taken in lieu of interest, is hereafter to be deemed as necessarily involving a partnership. Now, this may be all very well for speculative money-lenders seeking large profits, but will, I fear, afford no relief to the parties who would find in partnership on *Commandite* a great desideratum—*i. e.* the skilful engineer, the ingenious inventor or patentee, or the practical man of business seeking to establish a concern on his own account, and not himself possessing the capital wherewith to effect it.

For the persons above named this bill will, in my view of the case, do nothing at all, inasmuch as the money required as capital for the establishment of the business or undertaking must be advanced as a *loan*, and, therefore, the objection will immediately apply of commencing business with borrowed money, whilst the party advancing the money being a mere lender, will get no power over the property or assets of the concern, which will be wholly at the command of the borrower, who might land himself in the Bankruptcy Court a few days after the loan had been obtained, if he thought fit so to do. Further, by the second section of the bill a lender under this enactment will, in the event of bankruptcy, or a state of insolvency on the death of a borrower, have to postpone the liquidation of his claim till after the claims of all other creditors "have been satisfied," so that he will lend his money without any tangible security, and as a second-rate creditor (so to speak), a position that very few careful men of means will feel inclined to occupy, unless they have implicit reliance on the borrower.

A bill of sale, or warrant of attorney (if applicable at all under this Act, which may be doubted, as they would tend to defeat the provision just referred to regarding the superior claims of other creditors) would be inadmissible in nine cases out of ten, since it would cast a slur on the undertaking at its very commencement, as transactions of that kind are registered and published according to law. It seems to me that this Partnership Bill is a "sop to Cerberus," offered by those who do not approve of the principle that a genuine dormant partner, who merely advances money, and does not pledge his credit to the world, or interfere in the conduct of a given business or undertaking, should, if he chooses to, limit his risk, not be held liable for a larger amount of money than he has agreed to invest in the concern, the responsibility being reserved for the person or persons who present themselves before the world as responsible, and who are invested with the whole of the power over the transactions of the business, every partner, however, whether dormant or active, having his proper vested interest in the partnership property or assets. I am, therefore, not

surprised to find this bill what it is—a mere illusory proposition, with the exception of the third and fourth sections, which declare that servants or agents, and widows and children of deceased partners, may, in certain cases, hold interests in the profits of a concern without thereby becoming partners.—Temple, March 21.

F. W. CAMPIN.

THE IRON TRADE—THE GREAT LOCK-OUT.

SIR.—The great Lock-out in the iron trade is a spectacle painful to contemplate. The workmen, a class of men England ought to be proud of, the very life blood of the nation, are thrown out of employment by thousands, by the caprice of the very capital their labour has created, simply because they refuse to be the victims of a never-ending and always-beginning system of competition. The masters think the men ought to submit to their dictation; the men, on the other hand, say that if the masters choose to sell their iron at an unremunerative price they have no right to ask them to give their labour at a ruinous rate of wages. The masters may succeed for the moment, but in the end they must succumb. It is impossible, with the numerous openings for the labourer in every part of the world, that our labour market can for any length of time remain at the mercy of the combination of capital. This lock-out will go far to unite the labouring classes of England as one body. What can capital do against such a combination? It must fret and dwindle itself away. If there were any necessity for the ruinous competition in the coal and iron trade things would be different, but if we look at this question in its bearings, we can only come to the conclusion that the present system of competition is bad in principle, ruinous in its tendencies, and demoralising to the workmen. Some blame the men because they will not submit to the masters' terms and demands; let us put a case:—A workman is earning his 12s. per week; he receives notice for a day of 6d. a day, or 3s. per week; he is to do precisely the same amount of work for the 12s. per week he did for the 12s. This is what is required of the men. Now, suppose the Legislature were to put an income tax of 3s. in 12s. on the masters, or on the country at large, would not such a tax shake the loyalty of every man in the country? I think this is the right view, and the one we should all take of this question; and in doing so we must see at once that the men are not so much to blame for combining to protect their rights; it naturally makes them look upon every capitalist as their enemy. But what makes matters more perplexing is the idea that masters entertain, that if they reduce the price of their iron they can sell more than the natural demand. The idea is absurd in the extreme. If iron could be produced at 20s. per ton there would be a certain demand for it. When people want iron they do not look at the price, nor do they want to keep it in stock, except for speculative purposes. The idea, then, of reducing men's wages and bringing them to beggary, and to expect an influx of orders by such means, is mythical in the extreme. Times of depression in every trade always have, and always will, occur; and reductions in the price of the articles of manufacture will not revive a trade. A reduction in the trade alone is the only way for a trade to regain its position. "Abundance, with cheapness, will only aggravate or increase the evil. Some will say, how can this be done? The course is easy enough. The masters have now combined, and appear of one mind for once. Now, instead of trying to reduce their men's wages, let them reduce their make of iron for only six months. The markets and the price would recover themselves in that time. And instead of reducing wages reduce the time of work, only fix on some minimum rate of wages for the men, below which the price of iron should not be allowed to fall. Such an arrangement would pacify the men, and prevent these everlasting conflicts between labour and capital in the iron trade.

I am aware that many large iron manufacturers are barely paying their way at the present moment, but a reduction in wages will not alter their position at all. A reduction in wages simply means a reduction of 10s. per ton in the price of iron, and things are not improved so far as the manufacturer is concerned. It is high time a little more of that article called common sense was infused into this question, and a little less of the nonsense called civilisation. In some districts iron can be produced cheaper than in others, but if one uniform price of iron and labour is demanded in times of depression in the trade it would be as fair for one as the other, and our ready hands to labour would be contented—at least, they would have but little cause for discontent. I know it is absurd to attempt to prevent underselling in the iron trade, but a minimum rate of wages would go far even to prevent such underhanded dealings. I know, also, if competition drives our workmen from the land of their birth that labour is lost to us for ever; and that is more likely to do this than the present ruinous competition and attempted coercion on the part of capital. The capitalist should bear in mind there are other interests besides his at stake—there is the defence of England and the colonies, from whence we derive our great wealth. If the bone and sinew of the country emigrate, with them those defences are impaired—nay, jeopardised. Besides this, every skilled hand in the iron trade that leaves this country is a formidable rival to England in the land of his adoption. Therefore, look at this great conflict between capital and labour in any light we may, it all points to conciliating the workmen, and protecting them against the ruinous system of competition which an over abundant capital has instituted. For instance, we have now a depression in the iron trade; let the masters make the present rate of wages to the men the "minimum standard;" the men would know what they were about and understand their position at once, and this unhappy struggle would cease. To attempt to ruin a healthy, robust working man (as I have explained in my previous papers in the Journal) is impossible, but to ruin a master is a comparatively easy matter. Without the ready hand to labour capital is only like a "garment freighted by the moth." Not so with the workman; he may suffer a few weeks or months privations, but the very day he commences to work he can get something to eat, and he is all right again. Let masters and capitalists bear this in mind: the present combination among the working classes of England may lead to the most disastrous results, and the day may come when they may find many sympathisers capable of rendering them efficient aid: from such a calamity "Heaven defends us." It would not be the first time in history of such an occurrence; there is such a thing as carrying ideas too far, and the act of throwing from 70,000 to 80,000 men out of employment is a dangerous game to play at. Throgmorton-street, March 24.

GEO. SHEPPARD, C.E.

COLLIERY WORKINGS IN SOUTH WALES.

SIR.—It is rather amusing to look over Mr. Shepherd's letter, and see the items he puts down for the cost of the coal he worked at Cwmneol. It will be observed that there are seven items in the list, which Mr. Shepherd sums up at 6s. 6d., but any person who can put two and two together will make that clever calculation 6s. 8d. So much for Mr. Shepherd's cleverness—a fitting man to overlook and check accounts for a large colliery. Mr. Shepherd says—"The absolute cost of cutting the coal, as paid to the colliers (long weight), was 1s. 2d. per ton; this shows what a treacherous memory Mr. Shepherd has, as the price actually paid to the collier was 1s. 5d., and is now, since the advance, 1s. 9d. Mr. Shepherd has also omitted the following items in his list:—Headings, air-ways, repairing roads, turning stalls, setting timber, cutting bottom, clearing roads, horses, "donkey," and oxen, firemen, furnace-men, pit-men, batters, engineers, stokers, landers, tipplers, weighers

and the late discovery in this mine has convinced me that his words were not boast. In Capt. Brown's we lost a good tin miner—in our late manager we employed a good copper miner; an improvement in the management has since taken place. I trust the adventurers will profit by past experience, and insist that the mine be worked in a proper way—that the officials do their respective duties (no matter who they are) that the account-house sinecures be abolished, and that the mine be in future worked for the benefit of the adventurers, instead of for the sole benefit of others. Lastly, let the adventurers read the letter in last week's Journal, alluding to "Brass Wire" company, which ruin legitimate mining. Had Wheal Buller been "knocked," it is probable it would have been absorbed in Copper Hill sett? AN ADVENTURER.

GREAT WHEAL VOR.

SIR.—In my letter, inserted in last week's Journal, I said—"I anticipated that the March sale of black tin will be nearly, if not quite, 70 tons;" and I am glad to find that my estimate has been exceeded, as the quantity sold was 72 tons 12 cwt. 2 qrs. 6 lbs., producing 42097. 2s. 4d. Thus the monthly sales have progressively increased during the last twelve months from 48 tons in March, 1864, to nearly 73 tons in March, 1865; and it is most important fact that, of the 256 tons sampled for the four months ending with January last, 172 tons were raised from sinking and driving alone, only the remaining 84 tons having been taken from the large masses of ore laid open, thus showing what enormous reserves must be accumulating in this extraordinary mine, of which advantage will be taken when the price of tin improves, which it must do as soon as the general trade of the country revives. An advance of only 10s. per ton in the price of tin would enable the committee to more than double the present dividend. It is a curious fact that, in March 1864, while the mine was selling only 48 tons of tin per month, and paying a quarterly dividend of only 10s., the shares were at 40s. each; while now that they are selling more than 70 tons per month, and are paying a dividend of 15s. per quarter, the shares are only 32s. to 33s. each. They are selling far under their real value, looking at the reserves, and at the certainty of much larger dividends to come. AN ORIGINAL SHAREHOLDER.

THE GREAT LAXEY MINING COMPANY.

SIR.—I fully expected that some one of your numerous readers would have made some remarks on the meeting of the Great Laxey Company in the Journal of March 11; but as no one has done so, and thinking it a pity that such statements should go forth uncontradicted, I will publish a few lines for the information of the public in general and the Laxey shareholders in particular, with the simple wish of preventing a property I believe to be really valuable, if carried on for its legitimate purpose, being ruined by other schemes, such as smelting, and whatever else that might be made to lead to, probably the making of white zinc paint, rolling, or even galvanising, iron, &c.

The directors informed the shareholders that they were not getting a fair price for their shares, &c. If competition, and, in fact, over-competition, will not secure a fair price, will the directors inform them what will?—however, I will give them a few figures as a guide:—

Laxey blende contains, on an average, 48 to 50 per cent. metallic zinc; the loss in working is fully 12 per cent. The ore is sold wet weight, so that if the smelter actually makes 35 per cent, the full is the average.

Thus, it will take 3 tons of ore to make 1 ton of zinc, at 37. 5s. per ton £9 15 0

Fuel, for calcining, reducing, furnaces, and in yard generally, will 4 7 6

(on Laxey blende), 7 tons, at 12s. 6d.

Crucibles will cost, at least, at 9s. each 0 10 0

Labour all through 2 10 0

Carriage to market, interest, and commission 1 10 0

Total £18 12 6

The market price is 19s. 10s., less three months' interest; consequently, there is now a margin of 17s. 6d. per ton for rent, taxes, management, redemption of capital, maintenance and renewal of plant, and last, and in this case least, profit.

This statement is put forth in reply to the shareholder who said they could realise £1 per ton on spelter. The other statements as to its being the only jack not wanting crushing, smelting by itself, &c., are simply too childish to need answering, as it is well known that the best jacks are red, and just as they go from that colour to black just so do they go worse in produce, more refractory to treat, and, in fact, in every sense less valuable. The metal from Laxey blende is not better, nor so good, as that made from red blende, and is very much worse than that made from calamine. So much for statements of results as to profits. Now for the 10,000/- they say is required. A shed 60 ft. long, 45 ft. wide, will hold a calciner and two furnaces, and the whole will not cost one-tenth of that amount, and I venture to predict will be ample to try the truth of the directors' statements; but, above all things, let the shareholders insist that all their ore is offered by tender, as before, reserving to themselves the right of taking half at the price the lot brings, as a precaution that a good mine is not made to stand the loss on a bad smelting-works, or, if the directors wish it, vice versa. This is already done at the Mona Mine, and is a very effectual check on both concerns, and also a very great safeguard against the schemes of amateur metallurgists.

I will merely add that I am not in any way interested in any kind of zinc-works anywhere, and have merely sent you these remarks so that a body of men may not be led blindfold into what may prove a man-trap, as I am well aware there is no trade that has furnished such an ample supply of quacks, and, at the same time, such an amount of loss to the goss who have gone into it. JACK.

CROWAN MINING DISTRICT—No. VI.

SIR.—More than six months have elapsed since I noticed these mines, six months of unusual depression in the mining world, and though doubtless this has been felt in some respects here, as elsewhere, yet no mine has been actually suspended. So far from this, indeed, a most extraordinary activity has prevailed in many mines, and a vast amount of machinery has been erected. When I last passed through the Old Binner Downs and Crenwre Mines, at the latter mine, near what was during the last working (about 40 years ago) the account-house, I saw a small wooden shed, which was the pay office of a few men engaged in clearing the adit, &c. To-day I have again walked through it, and scarcely recognise the spot. The naked and rugged barrows, which extended for nearly a mile in length, are now almost hid beneath engine-houses, saw-mills, workshops, yards, &c., whilst over that part partially visible are scattered vast quantities of the largest timber, immense boilers, and massive pieces of machinery, whose utility can scarcely even be guessed at by a stranger, confused by the busyness of the artificers in iron, whose incessant tap tap sounds through the works; one, indeed, can scarcely realise the extent of the wonderful metamorphosis which a few months has sufficed to produce.

There is a somewhat romantic story connected with the early history of these mines, which was related to me by the late Capt. Lean, of Oatfield, about fifteen years since. During a meeting of the adventurers in the first working, at a time when the lode was looking very poor, and the property of "knocking the ball" was being seriously discussed, one of the agents, confident of ultimate success, said, "Well, I've one cow more left at home, and I don't mind selling that to give the lode a further trial." This set them in heart, and another call was decided on. The proceeds of this enabled them to reach the copper, and perhaps but for the captain's "last cow" this important and valuable deposit might have remained undiscovered to the present day. Thus, this fortunate cow assisted in the discovery of the most productive copper lode ever worked in the county, and which gave employment to hundreds of miners for many years, during which time immense quantities of copper ore were sold, realising considerably over 1,000,000/-

It has often been asserted that money spent in re-opening a deep mine might be more advantageously employed in working virgin ground; however this may be supposed to hold good as a rule, in this case there seems such a coincidence of favourable features that the almost certain prospects amply warrant a great outlay, as there can be little doubt but that large reserves of tin will be found in the present bottoms, and opened up by sinking deeper levels. Analogy completely confirms this view, as in the Camborne and Illogan district, of which these mines may be considered the western extension, under all the rich deposits of copper a gradual change from copper to tin has been invariably found to take place. These mines present a similar and gradual change, and the agents and miners of the locality seem to have just ground for their sanguine expectations of the great success of the Crenwre Mines. It is necessary to remember the vast importance of the neighbourhood and the adjacent mines of the re-opening of such an extensive run of ground; the moral effect is already manifest, many mines before languid having picked up courage to erect machinery and work effectively the large and promising veins which they possess.

Let us, however, look at the results should the Crenwre and Abraham Mines prove to be a great success. The district would at once be full of new mines, and more ground would thus be worked than could have been developed by the 100,000/- which is believed to be ample to place the Crenwre Mine in the Dividend List. The indirect result of opening a deep mine may, therefore, often prove more more beneficial to a district than the direct application of the same amount of capital to virgin ground.

In the present depressed state of the tin market, caused possibly by the supply being in excess of the demand, copper mines are unquestionably in greater favour with the mining public, and a large amount of capital will doubtless be invested in them during the present year.

In the earlier part of the present century Camborne and Gwennap produced the great bulk of copper raised in the county, and probably no portion of ground of the same extent returned such immense quantities of that metal. Now, however, these mines are dead, and the copper deposits are giving place to tin, it should be Crownan, and I unhesitatingly affirm—and am supported in this belief by the expressed opinion of high practical authorities—that this will be by far the best copper-producing district in Cornwall, when the poor channel of ground in the bottoms of the mine is sunk through. The neighbourhood has been lying idle so long that its immense capabilities are almost unknown to the public. This explains the cause of its having been so strangely neglected.

It may not be amiss just at the present moment, when the Crenwre Mines are exciting

so much interest, to briefly notice what the mines in the immediate locality have done, and it should be stated that this will not convey the full extent of their value, as copper was then selling at a much lower standard, and mining appliances were in a somewhat primitive state. Here, then, is a list, confessedly imperfect, but the best I have been able to compile, of the profits returned by the respective mines, with the depths to which they have been worked:—

East Treasury, first working	£90,000	Depth.
Huel Crowder	50,000	90 fm.
second working	50,000	—
West Treasury	73,000	—
Huel Sarah	6,000	110 "
Binner Downs	83,000	50 "
Carrys	80,000	160 "
Huel Mary	29,000	80 "
Huel Mount	12,000	60 "
Godolphin	50,000	40 "
Huel Julia	116,000	100 "
Huel Strawberry	200,000	130 "
Keskays	120,000	86 "
Huel Jamey	30,000	50 "
North Binner Downs	25,000	90 "

The amount against Binner Downs was returned above the 40 fm. level; since then mentioned have made a profit, and one or two have sustained a loss. This is conclusive evidence of the productive character of the district, as it will be seen that few mines have failed to yield a profit at shallow depths; and it seems inexplicable that such strong and well-defined lodes (than which better do not exist in the county) should have been allowed to remain with such a shallow exploration. But it has, unfortunately,

been the custom in Crowan and Gwennar for the adventurers, who were at that time nearly all resident in the immediate vicinity, to follow the course of one discovered and give up immediately it was worked out. So much has this rule been acted on, that although no district has been so generally worked, all the lodes being clearly traceable across the fields by the heaps of mine debris, yet the depth has seldom exceeded 60 fms. This will be easily perceived by an inspection of my mineral map of these parishes.

Should the Crenwre Mines prove unsuccessful there will, of course, be a flood of capital poured into the district—suddenly discovered to be a valuable mining field—and although the knowing ones are sceptical, and with just reason, of the mushroom mines which spring up with startling rapidity around any valuable discovery, yet in this case I believe the result will not only amply justify the outlay, but will be the means of opening up many splendid copper lodes.

No district can be in a more favourable condition for reworking; most, if not nearly all, the lodes are discovered and opened up to a good depth, whilst adits exist in every mine, and in most good shafts reach up to a depth of from 40 to 60 fms. under adit. The geological features are unexpected; the whole district is composed of blue killas of the most favourable description, traversed by many large elvan courses, which are a continuation of the Camborne elvans. The disturbances are numerous, and some of great extent, the Huel Vor floor heaving the lodes near Godolphin about 75 fms., and also displaces an elvan course about the same distance. Cross-courses are also plentiful, and often contain silver; that of Huel Herland produced 3000/- worth. In a future letter I shall give some further particulars.—TYSRO.

BRENTON STOMES.

PLURALITY OF AGENCIES.

SIR.—There are worse evils attending the management of mines than plurality of agencies, evils that the limited area of the Isle of Man prevent Capt. Rowe from practising, even if he were so disposed; but which in Cornwall—and I shall refer to them presently—are becoming of very serious consequence to the shareholders in certain mines. If, in calling attention to Great Laxey and its management, a shareholder, who writes professedly from Liverpool, in your last Journal, means to caution Captain Rowe against leading his name to the many ephemeral schemes starting up around Great Laxey, I cordially agree with him, though I believe the cautions are unnecessary. Captain Rowe has been manager of Great Laxey for, I believe, more than 20 years, and has brought the mine to its present position. He has been manager of Great North Laxey for seven years, and from the first has held a very large interest in it, and his present holdings in the new company are one-tenth of the mine. He has, in a manner, pledged his reputation that the rich lode of Great Laxey is the North Laxey lode. He supports his opinion by the interest he holds, though, by continuing his holding, he excited the enmity of persons (probably not unknown to "A Shareholder"), even at one time to "threatening" his position at Great Laxey Mine. When the North Laxey Company (Limited) had spent all their capital, raised all the money they could by preference shares, and got into debt besides, they had no alternative but to abandon the mine altogether, or to wind-up the company under the Act, and to form a new one, with a capital sufficient to bring it into a profitable state. There were parties connected with Great Laxey Mining Company who thought that members of the old company could not be found to re-purchase the property, and raise capital in hand enough to work it to success. They had, therefore, laid their plans to purchase it, and met with the most grievous disappointment when they found that the whole mine was purchased by members of the old company, who, under Captain Rowe's management and advice, had spent near 20,000/- upon it. I am more particular in mentioning all this, because many persons with whom I have conversed upon the subject have been prejudiced against Great North Laxey by remarks made to them in a certain quarter, where the grapes are very sour, and the letter of "A Shareholder" shows plainly enough an infusion of the juice. It has been said, also, that to issue shares at 37s. each, with 10s. only paid, is to make a large profit, and so it would be for a new company; but not so for the majority of shareholders in the present company, who has taken the risks of the mine, and a great expenditure, for seven years, and have now a property which they are led to believe, from the best practical opinion, will ere long rival its great neighbour. The remark was once made to Capt. Rowe that 37s. was a great profit upon 10s. (the speaker not knowing of the circumstances of the old company), and his answer was, that those who purchased at 37s. would make a larger profit than those who sold at that price, even if they had only cost them 10s.; and having been a shareholder in Great North Laxey when it started, seven years ago, and also when the old company was broken up, and retaining a large interest in the new, I am glad of this opportunity of expressing my entire confidence in Capt. Rowe, and I shall continue to support him in his management of Great and Great North Laxey, under his management.

I would now, if I have not trespassed too far upon your space already, refer to one of those evils connected with mine management which is greater, in my opinion, than "a plurality of agencies." I allude to the constant habit of our best agents spending the chief part of their time in inspecting mines for other people, and totally neglecting those they are appointed to manage. Many shareholders rest content, under the feeling that their property is under a first-rate manager; and so it may be nominally; but when a man undertakes the agency of seven or eight mines, and then earns 500/- or 1000/- a year travelling about inspecting and reporting, not only does he neglect his own duty, but the under-agents get disaffected, and neglect theirs. And to such an extent is this evil working at the present time in some mines, that without a change of management, it would be better for the shareholders that the mines should stop. VIGIL.

Meetings of Public Companies.

ST. DAY UNITED MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Austinfriars, on Monday.—Mr. BALSTER in the chair.

The notice convening the meeting having been read, the minutes of the last were approved.

A statement of accounts for the four months ending with costs for Dec. was submitted, from which the following is condensed:—

Balance last audit	£ 691 19 9
Copper ore sold	557 14 7
Tin sold	7692 12 10
Arsenic (estimated)	30 0 0
Sundry credits	215 6 11 = £9193 14 1
September mine cost, merchants' bills, &c.	£2050 4 6
October ditto	2291 15 11
November ditto	2277 15 2
December ditto	2111 11 0 = 8731 6 7

Leaving credit balance £ 462 7 6

The report of the agents was read, as follows:—

March 17.—Opple's engine-shaft is sunk 10 fms. 1 ft. below the 154; for the last 2 ft. the ground has become much better for sinking, producing some very rich work for tin, worth for the length of shaft 20/- per fm., and letting out a large quantity of hot water, which we have always found to be a sure indication of a good lode of tin very near; this has induced us to sink a little deeper before we drive our levels, and which we think will also be under the influence of the slide, which has so retarded our past sinking. In the 154, east of this shaft, the ground is hard and the lode poor. In the 174, east of the shaft, the lode is 2 ft. wide, and worth 10/- per fm.; we have commenced at this level to cross-cut south of Opple's shaft to intersect Field's lode, which is 10 fms. from this place, and produces large quantities of good copper ore about the 114 and 124. In the 164, east of shaft, the lode is 1½ ft. wide, and producing a little tin, with a very kindly appearance.—Billing's Shaft: We are preparing as fast as possible to fix the flat-rods in the 164, east of shaft, to sink this shaft below the 154, and hope to be complete for sinking by the end of this month. In the 154, west of shaft, the lode is 3½ ft. wide, and worth 25/- per fm. In the 174, west of shaft, the lode is 4 ft. wide, and worth 15/- per fm. Our stops in this part of the mine, between Opple's shaft, and our stops east of Opple's and west of Billing's are producing about their usual quantity of tin.—Trussell's Shaft: In the 154, west of shaft, the lode is 2 ft. wide, and worth 15/- per fm.; the men are cross-cutting south to come under the winze from the level above, which was sunk on the south part of the lode, and when we have effected this communication we intend driving the 154, where the lode is worth 10/- per fm., and stop the ground east of winze. In the 124, west of shaft, on Trevillian's copper lode, the lode is 1 ft. wide, and producing some good stones of ore, in very soft ground for driving; this lode has been driven 3 ft. from the 124, west of shaft, the lode is 3 ft. wide, and worth 10/- per fm. In the 154, west of shaft, the lode is 2 ft. wide, and worth 25/- per fm. In the 157 east of shaft, the lode is 3 ft. wide, and worth 60/- per fm. In the 157 west the lode is 2 ft. wide, worth 25/- per fm. In the 157 east the lode is 2 ft. wide, and worth 10/- per fm. In the 157 west the lode is 1 ft. wide, and worth 15/- per fm.; in this end we have had a hard capel to the north, which has apparently been the cause of the lode being so small; we have had it cut through, and find it is wearing out going east, and, therefore, hope the lode will soon improve, and resume its former productiveness. In the 162 west the lode is 4 ft. wide, letting out much water, and worth 60/- per fm. In the 157 west the lode is 2 ft. wide, worth 25/- per fm. In the 157 east the lode is 2 ft. wide, and worth 10/- per fm. We have four stops in this part of the mine, worth on average 10/- per fm. The winze in the bottom of the 157 east is holed to the 157, and good ventilation effected. In the 157, east end, the lode is 3½ ft. wide, worth 60/- per fm. The 157, west of Opple's, has been driven 23 fms. through ore ground of the average value of 159/- per fm. The 157, east of Opple's, has been driven 21 fms. through ore ground of the average value of 131/- per fm. The 157, east of Opple's, has been driven 21 fms. through ore ground of the average value of 131/- per fm. The 157, east of Opple's, has been driven 21 fms. through ore ground of the

lopment of the mine. As far as the committee were concerned, they had the same confidence they ever had, and looked forward to be remunerated not only by a return of their capital, but to receive in addition very good dividends for very many years to come. (Hear, hear.) It might be interesting to the shareholders to know that since the last meeting 76 fms. of ground had been sunk, the average cost of which had been 111. 12s. per fathom; and another fact of much greater importance was that more than two-thirds of their raisings for the past quarter had been obtained from driving and sinking—(hear, hear)—which he thought was a very assuring feature that their mine had not fallen off, the more especially when they recollect that the average value of the ore was greater than that of the previous quarter. (Hear, hear.)

Mr. PETER WATSON thought it would be satisfactory to the shareholders if they were informed the actual quantity of the obtained from driving and sinking, and that from stoking. —The CHAIRMAN said that of the 256 tons raised, 172 had been obtained from sinking and driving, 19 from cutting plat, and 2 from tribute.

Mr. BATTERS said that showed the mine was being fairly worked.—The CHAIRMAN further mentioned that for the past few months of the year they had been working the 80-inch cylinder-engine instead of the 60-inch, and the result was that less coal was consumed. He then read the supplemental account, made up to the day of meeting, which was as follows:—

The audited cash account to Jan. 31 last showed a balance in hand of	£294 1 3
Since which date there has been received—	
Tin sale, Feb. 14	3999 14 2
" March 16	4209 2 4
Sundries from the mines	1 8 10 = £11,134 6 7
And paid—January cost	£2443 1 10
Travelling expenses of deputation to the mines	18 6 6
Sundries, postage, &c.	9 18 8 = £2,471 6 7
Balance (cash and bills)	£ 8,663 0 0
The actual account stands this day as follows:—	
Balance in hand, as above	£ 8,663 0 0
From which deduct—February cost	£1906 6 5
Sundry accounts, salaries, &c.	188 6 0 = £ 2,184 12 5
Balance in favour this day	£ 6,498 7 7

The CHAIRMAN said that out of that balance the committee recommended a dividend of 15s. per share, after the payment of which there would be an increased balance of some few pounds to be carried forward, as compared with the amount at the last meeting. There was some little question at the last meeting as to whether the committee were warranted in recommending a dividend of 15s. per share, because it somewhat reduced the surplus balance, but in the present account a 15s. dividend had been actually earned.

Mr. PETHERICK enquired whether the monthly expenditure had been greater than hitherto?—The CHAIRMAN said the costs had been heavier. In the last cost-sheet there were extra charges for a whm-engine, shears, and winter coal; and in the cost-sheet before that there were several extra charges. Of course, they endeavoured to work with the utmost possible economy; they hoped to continue to preserve a sound financial position, and that the shareholders would always support them in keeping a good surplus balance in hand.

Mr. WARBURTON enquired the amount carried forward at the last meeting, after the payment of the dividend?—The CHAIRMAN said the amount carried forward at the last meeting, after the payment of the dividend, was 2050/-; but upon the present occasion the amount carried forward was 2067/-.

Mr. T. C. MUNDEY said that since the last meeting there had been a change in the management of the mine. He wished to ask if the present manager met the views of the committee?—The CHAIRMAN said, so far as the committee could see, they had every reason to be extremely satisfied with Capt. Julian—at any rate, he was reflective, and very careful, and he (the Chairman) had known him for some years as a man of great practical experience, and the committee had the greatest confidence in his general character and conduct, as to his sobriety, steadiness, honesty, and his efficiency as a miner.—Mr. MUNDEY suggested that in future a note should be appended to the audited account sent out prior to the meeting, calling the attention of the shareholders to the fact that a supplemental account would be submitted at the meeting, upon which the question of the amount of dividend would be decided.

The CHAIRMAN said that it was not the first time the attention of the committee had been called to this circumstance. Those who were in the habit of attending the meetings knew that a supplemental account made up to the day of meeting was always submitted, and that the statement sent out previous to the meeting was merely the audited cash account. As long as they had regularly audited accounts they could not be brought up closer, but at the same time he thought Mr. MUNDEY's suggestion would meet the objection.—Mr. PETER WATSON thought the better plan would be to sell the tin a week or ten days beforehand, and include the sale in the accounts.

The CHAIRMAN said the question would be considered, but he thought, at any rate for the present, that the end would be answered by appending a note to the audited accounts, for it was impossible to say what amount of dividend would be paid until the tin had been realised. If they could possibly organise their arrangements so as to include the last tin sale in the accounts it would be done.

The reports of the committee and agents were ordered to be entered on the minutes, and the accounts were passed and allowed. A resolution was passed declaring a dividend of 15s. per share.

Upon the proposition of Mr. PETHERICK, seconded by Mr. PETER WATSON, the committee of management were unanimously re-elected.

Mr. JENNINGS had much pleasure in proposing the re-appointment of Mr. G. NOAKES as managing director and Chairman of the company, at a salary of 300/- per annum. He knew that all the shareholders would agree with him that their excellent and worthy Chairman was most inadequately remunerated for the efficient services rendered; and he could say was, when the proper time arrived, he should propose an increase of remuneration.—Mr. BATTERS seconded the proposition, which was put, and carried unanimously.

The CHAIRMAN thanked the shareholders for this renewed mark of their confidence. He need hardly say that, after having occupied that chair for a number of years, it afforded him, meeting after meeting, inexpressible satisfaction to receive the renewed testimony of his co-proprietors, as it afforded every feeling of assurance that they were satisfied with the way in which he fulfilled his duties. (Hear, hear.) He felt much obliged to the hon. proprietor who had alluded to an increase of remuneration, but, at the same time, he (the Chairman) had a much greater interest for the shareholders of the mine at large than any of a personal character. He again thanked the meeting for the vote just now so unanimously accorded.

Mr. W. Moates was re-appointed auditor. A vote of thanks to the Chairman terminated the proceedings.

EAST WHEAL VOR MINING COMPANY.

A general meeting of shareholders was held at the offices, Austinfriars, on Thursday. Mr. FOORD in the chair.

Mr. J. H. MURCHISON (the secretary) read the notice convening the meeting, and the minutes of the last were approved.

A statement of accounts was submitted, which showed that after paying February cost there was a balance in favour of the mine of 2538/-.

The report of the agent was read, as follows:—

March 21.—Agreeably with your request, I beg to hand you a report of this mine, which includes all the lodes of Old Wheal Vor, in addition to those of the celebrated Wheal Metal, which is at present yielding more tin than any mine in England. The stratification, as also the tin hitherto met with in the shaft, are in every respect similar to those of our rich neighbour Great Wheal Vor. Since the general meeting, Dec. 29, the engine-shaft has been sunk 4 fms. 5 ft. through a strong lode, which yields occasionally stones of tin. The cistern-plat has been cut, and the dividing, casing, &c., completed to this point, 2 fms. below the 80. The lift will be fixed from the 70 to the 80, and all necessary work effected in three days from this date. The sinking will then be resumed by twelve men, with all possible dispatch. We hope to reach the 90 in three months. The 70 west is driven 2 fms. 4 ft. 3 in. through a large lode, in which stones of tin are also frequently met with; this end is, however, at present suspended.—Smith's Lode: The 60 east is driven 11 fms. through a kindly lode, averaging 3 ft. wide, containing muriatic, blonde, peach, soft spar, and a little tin, with water very freely issuing from every part of the end, which I consider a good indication. At the intersection of this lode the engine was working five strokes per minute; the water gradually increasing as we open on the lode, and at present we are working nine strokes per minute. The 60 west is driven 7 fms. 5 ft. through a lode which averages 18 in. wide, composed of blonde, spar, killas, peach, and prian, with stones of tin; this end is also suspended. In case the water should increase in the 60, I should deem it indispensable to place a dam in the 60 cross-cut. Our engine and pitwork continue to work well. The cost for the next three months, with the exception of the new drawing-lift, will not exceed that of the preceding three months. I still advise sinking of the engine-shaft with the utmost expedition, as from the nature of these lodes and branches, which, if the underlie continues as at present, will unite about the 100. I have no hesitation in saying that this mine will stand second to none in Cornwall.—JAMES POLLARD.

The CHAIRMAN had much pleasure in proposing that the report should be entered on the minutes, and that the accounts should be passed and allowed. The report so fully detailed the various points of operation, and so amply referred to their respective prospects, that he would content himself by referring to the fact that, although the mine possessed several important prospective features—not the least of which was the proving of Wheal Metal lode, which was producing such highly productive results in Great Wheal Vor—yet that the present great object was to reach the junction of the two lodes, which, according to the opinion of practical authorities, would be found at a depth of something like 100 fms. The attainment of that point could not but be regarded as of the utmost importance and interest, and for a twofold reason; for in the first place, at and about junctions large deposits of ore were almost invariably found; and in the next place, the two lodes that would conjoin the old Wheal Vor main lode (which had yielded over two millions worth of tin) and Smith's lode were of such a character as to strongly fortify the assumption that the most satisfactory results would then be realised.

Mr. PETER WATSON (pointing out the different operations at the mine by means of a section) referred to the fact that in Sithney Wheal Metal, close up to East Wheal Vor boundary, the famed Wheal Metal lode had been found at about 10 to 12 fathoms from the surface, said to be worth 12/- per fathom. There was no doubt that Sithney Wheal Metal adventurers would follow that lode in depth, and thus prove its value for the benefit of the East Wheal Vor adventurers. Although, as the Chairman had said, that could not be considered the primary object of the enterprise, yet he thought all the shareholders would fully agree with him that it was a point of no mean importance. He need hardly say that he had been intimately associated with several mines in that district (especially Great Wheal Vor) for many years, and during that time had closely studied its mineralogical characteristics, and finding that whenever two lodes came together—and he was now especially referring to Great Wheal Vor—large deposits of ore were almost invariably found. It was for this reason that he looked forward most confidently to the achievement of most important results at and about the junction of those two great lodes. In East Wheal Vor a large amount of capital had been expended in providing the property with an effective plant and machinery, and in the partial development of the mine, and all the future expenditure would be for the further development of the mine, to meet which expenditure there was in hand, it was estimated, a sufficient balance to carry the shaft down to the point of junction.

Mr. JEFFREY asked if the prospects improved as the shaft was deepened?—Mr. PETER WATSON said if shareholders would but attentively read the reports from the mine (which always appeared in the *Mining Journal*), they would find that as the depth was increased the indications materially improved.

The CHAIRMAN, replying to a question, stated that it was thought it would take from one to twelve months to reach the junction.

Mr. COOKS regretted that the report had not referred to the lode in the eastern part

of the mine, which had always been considered a most important point; and its importance had recently been materially increased by the cutting of the Wheal Metal lode in the Sithney Wheal Metal sett, close up to East Wheal Vor boundary. The same lode, it was to be remembered, had been opened upon in the eastern part of East Wheal Vor. It was quite probable that if they agreed to put up a small engine at that point they would at once sink upon a productive lode.

The CHAIRMAN, replying to a question, stated that the costs, as compared with what they were six months since, had been reduced about one-half, the present costs amounting to about 250/- per month.

The report was ordered to be entered on the minutes, and the accounts were passed and allowed. Messrs. Foord, Guerrierie, King, and Teesdale were appointed the committee of management.

Upon the proposition of Mr. EDWARD COOKE, seconded by Mr. JEFFREY, a vote of thanks was passed to the committee for their past services.

A vote of thanks to the Chairman terminated the proceedings.

EAST WHEAL RUSSELL MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Austinfriars, on Wednesday,—Mr. JOSEPH PROCTER in the chair.

Mr. J. H. MURCHISON read the notice convening the meeting, and explained that it was originally called for March 15, but in consequence of Captain Richards's absence in Scotland he could not inspect the mine previous to the meeting, and the adjournment was decided upon, in order that his report might be presented. The statement of accounts, showing a balance of liabilities over assets of 3651. 1s. 4d. (irrespective of ore to be sold this week), and a loss on the three months' working of 1211. 1s. 1d., together with the subjoined report, were then submitted:

March 12.—Homersham's shaft has been sunk 6 fms. 2 ft. below the 130 fm. level, to the south of the lode, or a total of 13 fms. To complete the lift, 4 ft. 6 in. more will have to be sunk, which will occupy another week; the cutting of plat and driving a 140 fm. level cross-cut will then be got on with, for intersection of the different parts of the lode. The ground at present is easy, and congenial for mineral.—Homersham's Shaft: Soper's cross-cut, at the 130 east, has been extended north 7 fms. 3 ft. 3 in. The last 11 ft. is in the north part of the lode, and as yet no north wall is reached; so far it is composed of prian, capel, quartz, muriatic, and a little ore, with gossan of the finest description. The 130 has been driven east, and east of Soper's cross-cut, on the middle part of the lode, 23 fms. 3 ft., the lode averaging 4 ft. wide, composed of capel, muriatic, prian, quartz, and ore, worth in places 8t., 10t., 15t., 22t., and 30t. per fathom. In the present end it is 3 ft. wide, and worth 8t. per fathom. A rise (Barkell's) has been put up in the back of the 130 east, and east of Soper's cross-cut, and communicated with the 130 above the lode for the whole height proving a good course of ore, worth 15t. per fathom. The 130 east has been driven west of Soper's cross-cut, on the middle part of the lode, 2 fms., the lode proving 4 ft. wide, consisting of capel, quartz, muriatic, and a small proportion of copper ore. The 120 has been driven west, and west of Maynard's cross-cut, on the north part of the lode 3 fms. 4 ft. 6 in.; the lode, or part thereof carried, 4½ ft. wide, is composed of gossan, capel, prian, quartz, and iron, and in places grey sulphuret and red oxide of copper. This drivage is suspended, and the men are removed to drive the 77 west. The 77 east has been driven west of Northey's cross-cut, on the north part of the lode, 6 fms. 1 ft., and the lode for the first 3 fms. yielded 6t. worth of ore per fathom; in the present end, although not yielding much ore, it promises improvement. The 45 east has been extended 9 fms. 1 ft., the lode averaging 4 ft. wide, composed of a mixture of flookan, muriatic, blonde, peach, and capel, with stones of ore occasionally. William's cross-cut, at the 88, west of Hitchin's engine-shaft, has been driven north 6 fms. 2 ft. 6 in., where a branch or cross-course has been met with, on which the drivage is turned. The ground is favourable, and highly charged with mineral. Homersham's shaft having nearly reached a sufficient depth for a 140 fathom level, no time will be lost in completing it, and in cutting plat and extending the 140 east, to come in under the ore ground in the 130 above. The 130, east of Soper's cross-cut, on the middle part of the lode, has proved productive for a considerable length up to and continuing in the present end, and the appearance of the north part of the lode in Soper's cross-cut being of the most promising kind possible, we are encouraged to hope that this mine will yet become one of the best in the neighbourhood.—JAMES RICHARDS, JOHN GOLDWORTHY.

Capt. GOLDSWORTHY, in reply to a SHAREHOLDER, stated that in the 130 they had still to go under the main body of ore ground. There was not a finer lode in the neighbourhood, though it was not yet profitable; that it was a promising one, and one which no miner would like to leave, was the opinion of every agent who had seen it. In the 120 they had met with the largest quantity of ore in the north part of the lode.

Mr. COOKE enquired where they first cut ore in the 130 fm. level, and remarked that as he noticed it stated in the report that they were nearly low enough for a 140 fm. level, he would like to learn when that level would be commenced, and also what distance they had to drive to reach the ore ground, and the time that would be occupied in the work?—Capt. GOLDSWORTHY said that in the 130 they reached the lode in about 23 fms., and the cost of working the lode was about 8s. in 1f. They had no caving in the 130, which was a freak of nature, for which it was very difficult to account; indeed, one could account for it. The driving of the 140 fm. level would be commenced in the course of next week, and as they would have about 23 fms. to drive he should think it would take about three months.

Mr. COOKE observed that the true state of the case, then, was that it was a very good speculation, although success had not yet been obtained; he believed it was upon this consideration that Capt. Richards's best friends were very large holders, and continued to be so.—Capt. GOLDSWORTHY: Precisely so.

The CHAIRMAN remarked that the meeting had already heard from the statement of accounts that there was a balance of liabilities over assets amounting to 3651. 1s. 4d., and this, as well as the cost of working the mine, would have to be provided for; the next question for their consideration would, therefore, be what call they should make.

Mr. COOKE enquired how it was that there was so large an amount of calls in arrear—nearly 3000!—Mr. GOMPERTZ suggested that a resolution should be passed that the shares be forfeited.—Mr. COOKE thought it the best course that could be adopted; the shares were a very good asset, and he thought that if the forfeiture were resolved upon, with that condition that on the payment of the calls within 14 days the shares should be restored, it would be no injustice to the defaulters, and would place the arrears in the hands of the committee.

Mr. MURCHISON said that it would be necessary for the present meeting to fix a day upon which to hold a meeting for considering the forfeiture, as they could not forfeit until the defaulters had had notice of their intention to do so. He himself thought that upon the notice of the meeting to forfeit being sent out most, if not all, would pay the calls due upon their shares.—Mr. COOKE only wished to see the calls paid, and had no desire whatever that the shares should be forfeited.

A SHAREHOLDER enquired what amount of funds it was necessary to provide for by a call?—Mr. MURCHISON said that the balance against them was 3651. 1s. 4d., and the three months' expenditure would be about 2250/-, against this there was estimated 700/- for ore to be sold this week, so that about 1900/- was required.

Mr. COOKE thought they certainly ought to be able to do without a 10s. call; but as the directors were the largest holders, he presumed it had better be left to them.

It was then proposed by the CHAIRMAN, and carried unanimously, that a call of 10s. per share be made.—The meeting for forfeiture of shares was then fixed for April 24, and thanks were given to the Chairman, the proceedings terminated.

DON PEDRO NORTH DEL REY GOLD MINING COMPANY.

The third ordinary general meeting was held at the offices of the company, Liverpool-street, on Thursday.—Mr. HAYMEN in the chair.

Mr. J. E. DAWSON (the secretary) read the notice convening the meeting. The report of the directors was taken as read.

The CHAIRMAN, in moving its adoption, said that, having addressed the proprietors but three months since, he had little to say upon the present occasion. He might refer to the fact, however, that some mistake appeared to exist in the minds of some shareholders as to the dates given upon the communications forwarded to the shareholders upon the receipt of each mail. They were the dates from the mines, and, therefore, were necessarily dated two or three months before the time they were forwarded to the shareholders. An impression, too, seemed to prevail among some who were largely interested in the company that the adit, which it was stated in the report would be finished between April and June, would be considerably delayed. That, however, was not the case; when he referred to the question at the last meeting he stated that he believed it would be completed between April and June, and he had no reason to doubt that it would be completed by that time. He made this statement to remove any misapprehension that might exist upon that point. As regards the future, he and his co-directors had not lost one iota of their confidence in the enterprise, for they still fully believed that their original anticipations would be more than fully realised. All the points of operation looked most favourable—in fact, as soon as the adit was finished he thought there was every reason to believe they would get the plumb which they had so long expected. The other portions of the work, which were not without some interest, were progressing satisfactorily. He moved the adoption of the report.

Mr. VILLEBOISNE saw by the report that the general meetings would be held but once a year. It was true there was some reference to an interim meeting, but he thought it would be better if it were resolved to hold meetings half-yearly. As regards the financial position of the company, he found by the balance-sheet that there was in hand 4400/-, but that on the other side the liabilities amounted to 5500/-; therefore, no doubt in a few weeks the directors would be in want of funds, and, according to his opinion, the best course to adopt would be to make a call. He should like to know when the bills referred to in the balance-sheet were payable, and when it was probable the next call would be made?

The CHAIRMAN said, with regard to the statement in the report about the general meetings being held annually, he thought the report rather intimated that the board intended to convene an interim meeting. What the board meant was, that by the Articles of Association annual meetings were all that was required, and it would be of no use convening a half-yearly meeting before the company was in a prosperous condition, and able to declare dividends.

He observes—The great lode of the Quebrada Mine crops out at a place called Titias, two miles to the east of Quebrada Mines proper, presenting literally a crest of riches. This beautiful description of copper here lies in masses, mixed with mica-schist many feet in thickness. The great body of ore has not been much worked in this place, it being 2000 ft. above the other mine, and two miles from it; and along its back hills and valleys are covered with the finest gossans. It is easy to imagine what will be the result of opening all this ore ground, as it cannot fail to make one of the largest and richest copper mines that ever was worked."

JAMES LANE.

From Mr. EDWARD COOKE.—There has been much more business doing than for a long time past, and we only require a little change in the weather to cause a decided improvement in the market. Several mines have been largely dealt in—Great Laxey, East Lovell, Wheal Baller, Great North Laxey, East Granville, South Cadbury, Cliffords, &c., and, in some instances, at advanced prices. Those who adopted the advice I proffered a fortnight since relative to East LOVELL, will now see how far it was sound. A great improvement has taken place in the shaft, which has caused the price to advance to 122L, being a rise of about 4L during the past few weeks. GREAT EAST LOVELL should not be lost sight of. The severity of the weather has retarded the building operations for the engine-house, but has in no way detracted from the good prospects of the mine. I may now state that the engine is paid for, and there is sufficient capital in hand to develop the mine to a considerable extent. The mine is as valuable now as when the shares were 2L 10s. per share, and could now be bought, probably, at 2L 2s. ½d. According to the testimony of a high authority, who has recently inspected the mine, there will be early returns of tin, and the indications are such as to warrant the expectation of large quantities of it, when the very promising lodes now visible are worked upon.

NORTH CHIVERTON.—The latest intelligence from this mine states that the lode in the new shaft is 2 feet wide, producing beautiful stones of silver-lead ore, in a good channel of ground, and at a greater depth the agent has no doubt it would be found highly productive. At the meeting on the 17th inst., a sufficient call was made to pay off all liabilities, and to work the mine for three months. In the meantime, the very promising lode alluded to above will be further developed, and in a district like this it is not unreasonable to expect something very good, in the shape of a deposit of lead ore, before the next meeting. The mine is selling at a very reasonable price, and the shares are worth buying. GREAT NORTH LAXEY shares are still being dealt in, and in fair request. In a short time the shaft will be down to the 70, when driving upon a good course of lead will be commenced, when, no doubt, there will be a great demand for the shares, at a much higher price than they can now be bought at. The standard for copper ore continues to improve. This is very encouraging to holders in copper mines, and tends to improve business. A similar advance in the price of tin would prove a great boon to shareholders in tin mines, and those mines that with the present price of tin can keep up dividends would have a great reaction if it were to advance. LEAWOOD MINE could not be lost sight of, the indications lead the shareholders to expect they are going to have a great prize.

From Mr. T. SPARGO:—Since my last communication business in mining has fluctuated but little, and prospered even less; but a change for the better is beginning to pass over it, and Hope, which "defered makes the heart sick," is shedding her light and healing upon our minds. The price of metals still deters investors, and discourages those who are engaged in the business of mining. Tin is lower, and it is to be feared will for a time, at all events, deteriorate in value. There have been few great discoveries in Cornwall, and most of the mines in that rich county are of great depth; but in "the Straits" more mines have been brought to light, and in character with those which had already existed more easy of access, and capable of being worked cheaply. The recent discoveries of mineral wealth in the British Isles, taken as a whole, have been considerable in number and value. The discovery in the district of the GREAT WHEAL VOR has been immense, and abundant also in surrounding mines. It is noticeable that, notwithstanding the general depression in prices, not only in certain departments of the metal market, but in productions of other descriptions, copper has retained its value. There are good dividend-paying and excellent prospective mines, the wealth of which is constituted by copper. Investors would follow a good example who, as we have known a good number of capitalists to do lately, embark their money in copper mining. Lead and silver mines are beginning to attract much attention, and ought to command the enterprise of minded men. Probably no operations which in the least partake of the nature of a venture are more safe than the working of silver-lead mines. There are many of these which make very large returns. DYLWYFIE may be given as an instance. This was brought into notice by the energy, or, at all events, principally by the energy of Messrs. Bright and Cobden, the distinguished Members of Parliament. Apropos of the Honourable Member for Birmingham, it may be remarked that he is not only interested largely in very remunerative mining property, but he is the eloquent advocate of the mining interests when menaced or endangered, and of the industrious and thriving workmen which in such vast numbers it employs. This was illustrated lately in the House of Commons. In the debate upon the pollution of rivers by town drainage, manufactory, and mines, some members were very severe about the injuries alleged to be inflicted upon peaceful anglers by polluting the waters which afford their pastimes. Mr. Bright remarked that, however agreeable a sport river-fishing might be, it was much more important that the whirling-wheel went round in the stream, and that thousands of the industrious men and women who worked in the mines should be able to pursue their useful and profitable toil. He challenged the lovers of the line and hook as to whether it were better for them to change the scene of their pensive amusement, or for prospering mining communities to be thrown upon public relief. Mr. Bright mentioned a startling fact. He declared that, although his own mine—the Dylwylfie—had doubled its returns, he was happy to say that sportsmen had never before enjoyed such good sport in their neighbourhood as during the last fishing season. We have often visited the rocky hills at Dylwylfie and its vicinity, and watched the gushing waters which bear away the refuse produced by the miners' labour; but we never imagined that the prosperity of the silver-lead interest and the angler were co-existing, or that trout lived better and was more ready to take the fly in the waters tinged by the operations at Great Darren or Dylwylfie. We will hope that the great debater and prosperous miner is not in this case an eminent special pleader. There are vast districts of our land bearing silver-lead ore. Great things as have been accomplished in the way of discovery, it is only in its beginning. Wide-spread portions of our country will yet be worked successfully for the precious ore, and where now sheep feed and the shepherd wends his solitary way, the buzzing wheel will be heard, and the cheerful sound of the apparatus of the bustling jigger, while commerce will cause the country where these changes are wrought to seem healthy and happy people. It is dangerous to prophecy; but it is a pleasant temptation, and we will venture to foretell that a vast volume of the capital which flows out of this country in foreign loans and ventures will find a channel in the mining districts of our own land. Already capitalists of judgment are changing their investments from "foreign securities" into the silver-lead mines. As the districts practically unexplored are opened up this change in the direction of investment will rapidly increase. In various districts of Wales, especially South Wales, the hidden treasure awaits the hand of the prudent but enterprising adventurer. We have already noticed Dylwylfie, in Montgomeryshire. That county and Flint are destined to open their rugged breasts, and disclose a rich supply. Cardiganshire has been long famous for the production of silver-lead; but its mineral resources are, after all, only beginning to be unfolded. What a list of successful undertakings we have already in Cardiganshire:—Llansteffan, Cwm Erbin, Bronfloyd, East Darren, and Great Darren. A most valuable lode has been discovered at the bottom of this mine, the workings above which are half a mile in length, without taking into account the great Cwmsymlog lode, which runs through the property, and at the East and South Darren, bearing rich silver-lead and copper ore. Now is the time to invest in good progressive Welsh silver-lead mines. Everything in surrounding circumstances makes it expedient to do so. Money is cheap. The Bank of England has lowered its rate of interest, and will speedily reduce it still lower. The gold in the Bank is large in amount beyond example. The monetary condition of the country is sound, and our commercial position safe. The general monetary condition of Europe is favourable. Large sums of money, it is true, are leaving Germany and Holland for the Federal States of America; but, after all, the total bears a small proportion to the money lying for investment in England and the great commercial cities of the Continent. The Bank of France has a large supply of gold, and the rate of interest, which is low, is not likely soon to rise. Above all these encouraging considerations peace is likely to continue. Our relations with the United States are better than they have been for years, and as the Americans are not disposed to fight us, and nobody else will, we are likely to see more of the olive branch than the laurel for some time. There is no season for temerity; but there are various seasons for courage, enterprise, and judicious speculation. A most favourable conjuncture of circumstances make out the present as the right time for investment in good progressive mines, and we think those of Cardigan especially invite the adventurer.

SALE OF MINE SHARES BY PUBLIC AUCTION.—Mr. T. P. Thomas sold by public auction, at Garsaway's, on Thursday, the following mine shares:—44 Crown Consols (solid under a special resolution of the company), at 6d.; 19 ditto, 93s.; 162 ditto, 1s. 9d. 71 ditto, 1s. 5d.; 36 ditto, 1s. 6d.; 10 Natal Central Railway Company (scrip), 1s.; 10 Par Consols, 20s.; 2 New Rosewarne, 7s.; 50 Wheal Hartley, 2s. 6d.; 10 Wheal Grenville, 4s. 1s.; 60 West Great Work, 10s. 9d.; 40 ditto, 11s.; 40 ditto, 1s. 3d.; 10 ditto, 1s. 6d.; 10 Long Eake, at 17s. 6d.; and 10 Wheal Edward, at 2s. 3d.

MINE ACCIDENTS.—At Breage, John James, 35, fell down an old shaft 10 fms. deep, and was killed. Verdict, "Accidental Death."—At Cargill, S. Laney, 19, was killed by a blow on the head with the balance-bob.—At Burncoose Mine, William Body, 73, a drunken pauper, fell from the middle floor to the bottom floor of the engine-house, and was killed.

TREATMENT OF POOR AURIFEROUS ORES.—Although the Gould and Curry Company obtained during the year about 1,000,000L worth of gold, it appears that 20 per cent. of the precious metal was lost in the tailings, which contained on the average $\frac{1}{2}$ ounce of gold to the ton; these tailings are now purchased at a high price, and profitably worked by another company, proving that with proper treatment even low-priced ore can be successfully manipulated. A competent American authority remarks that nearly the whole of this loss arises from the improper use of mercury in amalgamating. Most of the professional amalgamators are so wedded to old notions that they will not even listen to reasons for their abandonment. Few of them being men of science themselves, they look with disdain on those who are. When mercury is minutely subdivided, the almost invisible globules become so coated with impurities that they lose the power of adhesion and will never re-unite unless force is used, and that force very different from grinding. This principle is beginning to be understood among the inventors of amalgamating pans, and the grinding of the mercury is avoided as much as possible—those saving the most metal that grind it the least.

NEW AMALGAMATING PAN.—An improved pan has been introduced in California and Nevada, by Messrs. Baux and Giulio, which differs from all others, in not mixing the mercury with the ore at all, but having a quantity of it on the outer edge. The particles of gold and silver in the ore, owing to the peculiar structure of the millers, are injected into it by the centrifugal motion imparted to them, and are forced to combine with, without dividing, the mercury. The most improved Varney pans have a wood set into their bottoms, to save the grinding of the mercury. The Wheeler's Tractor pan, a very scientifically arranged contrivance, confines the mercury to the centre, to avoid its being ground. The loss of mercury in Nevada exceeds 100 tons per annum, and in California it is probably much more.

An oil well in JACKSON, Michigan, has been sunk 2000 feet. It is intended to sink it to the depth of 3000 ft. The deepest oil well at present is 2600 ft.

THAMES TUNNEL COMPANY.—Receipts for the week ending March 18, 772, 2s. 7d.: number of passengers, 18,611.

HOLLOWAY'S OINTMENT AND PILLS.—**GREAT RELIEF.**—All gouty and rheumatic affections, weakness and wasting of the limbs, stiff joints and contracted sinews, can be treated with the certainty of success by the diligent friction of this excellent ointment upon the affected part after it has been patiently fomented with warm brine. Holloway's pills should be taken by the sufferer who fairly tries this treatment, because they purify the blood, invigorate the stomach, regulate the liver, stimulate the kidneys, act as mild aperients on the bowels, and as tonics on the nerves. In skin diseases and glandular complaints Holloway's remedies are earnestly recommended, on account of their gentle, yet effective, action, when a long chain of scrofulous evils surrounds a victim.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

GOLD IN WALES.—Castell Carn Dochau returns of Gold for the week are 4 cwt. 14 dwts. 10 grs., from 18 cwt. of lode stuff—making a total of 187 cwt. 9 dwts. 13 grs., from 85 tons 9 cwt. Mr. T. A. Reeswin states that, in Merionethshire, more than 12,000 ozs. of Gold have been obtained from about 4000 tons of quartz, &c.

WHEAL GREENVILLE.—is looking much better, both in the 110 and 120. They have a fine lode in the 110, worth more than 25L per fm., and the appearances in the 120 are indicating improvement. With a good lode in the 120 this mine would take a prominent position. The monthly samplings are likely to be much better. The sampling for Dee, was 10 tons; Jan., 11 tons 5 cwt.; Feb., 12 tons 10 cwt., while this month is expected to be 15 tons. The month labour costs are about 650L. An improvement in the price of tin would enable this mine to make good profits.

SOUTH GREENVILLE.—is well deserving of attention at the present price.

BEDD-O-AUR LEAD MINE (near Holywell).—The late reports of this mine are of the most encouraging character, and little more appears to be wanting to create a considerable demand for the shares. It appears by one report (not official), dated the 18th inst., that about 15 tons of ore is now in process of dressing for the April sale, which quantity, if the weather continues propitious, will possibly be added from the stopes. It has been already intimated to the shareholders that a sale was to have taken place on March 9, which was wholly prevented by the severe winter. Mr. Pierce, the agent, asserts that the mine is looking very promising all through, and certain to pay well, there being no better seat to be had throughout the locality, and he quotes the value of the shares far beyond the price at which they are advertised. The cutting of a branch in the cross-cut west of stopes in Spencer's winze is also reported, composed of clay, spar, and stones of lead ore, all which is highly satisfactory to—A SHAREHOLDER.

ROARING WATER MINE.—A single blast, in the stopes west of Grady's shaft, in this mine, on Thursday last, broke out some splendid rocks of ore. A piece from one of them, $\frac{1}{2}$ cwt., which will yield 60 per cent. of pure copper, will be sent to Swansea in the Emerald, now about being loaded with a cargo of ore, and which, no doubt, will bear comparison with the ore from Chile, Peru, or any of the richest foreign mines in any part of the world. Preparations are being made for the immediate erection of a powerful water-wheel for pumping, and a crusher attached, for the more speedy and economical preparation of the ore for market.

DEVON COPPER MINE (Okehampton).—Everything is looking as well as can be wished here. The drivages in the 18, both east and west, are presenting a very promising appearance.

The agents, in their report for the meeting last week, say:—"We have also driven 15 fms. east in this level, on the north part of the lode; the ground in the present is rather spare for driving, being of precisely the same character as in the adit level above. This point is also within a few fathoms of the run of ore seen ground therin; and, looking at the large and promising lode we now have, we anticipate good results shortly. We have also driven 15 fathoms west on the north part of the lode, which is composed of capel, spar, gossan, and a little copper ore. At this point we have cut through the lode, and find it 15 feet wide, and of precisely the same character as seen in the eastern level, as we have 9 or 10 fms. to drive to get under the promising lode seen at surface, for which 6 ft. of its width produced large rocks of gossan and copper ore, we anticipate an improvement in this level shortly." Those who know the extraordinary nature of the indications, &c., in the ground gone through in the adit level above, and the surface appearance near the wheel-pit, will duly appreciate the great value and importance of this part of the agents' report, and will wait anxiously for the improvements, which may reasonably be expected within a few weeks.

SOUTH LOVELL.—As will be seen from the report of the agent, which appears in another column, this mine generally has during the past week considerably improved. The tinstaff left in the plat by the former workers has been discovered, and has proved to be of a very rich quality. The general opinion in the district is that South Lovell will not be long before it successfully vies with its rich neighbour, East Lovell.

At SOUTH WHEAL GREENVILLE (immediately adjoining Wheal and East Wheal Grenville, and under the same responsible management).—A lode has been discovered in the adit, and which presents finer indications than the lodes did in its neighbours at the same depth, and a good discovery may be made any day. There is a steam-engine upon the mine, and which is paid for. There will, therefore, not be any outlay required for machinery.

WHEEL EMMA continues to look well in the 58, and there will be a fine parcel of best ore for the next sampling.

WHEAL UNITY.—The improvement here continues; the ends east and west in the 70, are still in ore ground, and improving. The length driven in this level being nearly 40 fathoms, showing an immense improvement on the level above. The winze sinking below the 70 is now down about 3 fathoms, and continues worth 1 ton of ore per fathom. This mine is in a good district, adjoining Rosewarne Consols, and from present appearances Unity bids fair to become a valuable mine.

NORTH DEVON.—The caunter lode in the 20 was cut last week, as reported in the Journal, valued at 35L per fathom: it has since much improved, and the agent now states it to be worth 60L per fathom. The different points of operation at this time are worth 190L per fathom, while the cost of driving, sinking, and stopping are something under 80L per fathom. The ore sampled, and for sale April 3, is 40 tons. The next sampling, from the improvements which have lately taken place, and the cutting of the caunter rich in the 20, will be much in excess, and will leave good profits. The prospects of the mine are bright and cheering, its financial position good, all costs fully charged up, no debts, and the costs very moderate. Few mines have better prospects than North Devon.

SILVER ROSE (formerly Wheal Prosper and Wheal Mary), in Perranzabuloe, was started on March 13. A large and influential body of shareholders met at Perranzabuloe, when the whole number of shares (3000) were signed for, and instructions given to commence operations immediately. Mr. H. E. Croker was appointed purser, and Capt. J. Hampton manager. The lodes are those running through the celebrated Chiverton district, and present very favourable indications, offering great facilities for working. There is a fine run of rich silver-lead ore in one of them. The appearances are considered so satisfactory that the shares were eagerly taken up by many respectable residents and mining agents of the locality, and are now at a premium.

GUNNISLAKE MINING COMPANY.—The whole of the unallotted shares in this company have been taken up by the directors and their friends. At a meeting held yesterday, at the offices of the company, resolutions were passed for the immediate and energetic prosecution of the undertaking. We are glad to say that the spirited conduct of these gentlemen, in taking such a large interest in the mine, has already met with its reward, a very valuable discovery having taken place in sinking Parker's shaft within the past few days, which bids fair to realize the most sanguine expectations that have been entertained of the prospects of the mine. The report in another column, dated yesterday, at the offices of the company, resolutions were passed for the immediate and energetic prosecution of the undertaking. 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and are pushing down as fast as possible with a full pare of men. The 20, west of Parker's, is still being driven through the same splendid body of gossan.

PAC AND ST. BLAZIY CONSOLS.—W. Taylor, March 21: The new shaft is sick, timbered, and made complete 3½ fms. below the surface. Present price for sinking, 5½ per fm., which includes all the timbering. This is very favourable ground, and I hope it will continue so through to the 15. The lode in the 16 west is still disordered by the cross-course, but easy for progress; the present price for driving is 3½ per fm. We are pushing this shaft through to the 15 in order to sink below as fast as possible, having every confidence that the lodes will be found profitably productive in this beautiful channel of ground.

PEDD-AN-DREIA UNITED.—W. Tregay, March 18: Sump: The lode in the pitch in back of the 130 east is worth 491, per fm.; as far as seen there is no south wall. The 130 west end is poor. The lode south of the 130 east rise is worth 501, per fm.; no south wall. We have cross-cut the lode in the 130 west about 14 ft., worth 141, per fm.; it appears we have reached the north wall, which will be poved early in the week. In the 110 east we have intersected a lode 3 ft. wide in the north cross-cut, containing a little tin and spots of copper ore, but have not yet reached the lode that produced copper in the level above (47). The lode in the stopes in the bottom of Cobbler's shaft is worth 121, per fm. The 110 east is worth 71, per fm. The 100 west is worth 61, per fm. The 90 east is worth 51, per fm. The 90 west is worth 41, per fm. The 85 east is worth 71, per fm. The 65 west is poor.

PRINCE OF WALES.—Wm. Gifford, March 21: We are pushing on the sinking of Watson's shaft with all possible speed. The men commence working on Monday mornings at 1 o'clock, and continue the same until Saturday nights at 10 o'clock. The 30 east is driving on the side of the lode. In the 30 west we are carrying the lode, which is 1 ft. wide, composed principally of quartz and arsenical muriatic, with occasional stones of black and yellow copper ore, but not enough to value.

PROSPER UNITED.—S. Lean, Wm. H. Martin, March 23: The ground in the 90 cross-cut, north of Louis' shaft, is hard, and consequently we are making but slow progress therin. The lode in the 80, west of Hill's shaft, is 2 ft. wide, worth 51, per fm. for tin. The lode in the No. 1 winze, sinking below the 70, west of Hill's shaft, is 3 ft. wide, and worth 101, per fm. for tin and copper. The lode in the 70, west of Hand's shaft, is 18 in. wide, composed of muriatic and spar. The lode in Hand's shaft, sinking below this level, is 2 ft. wide, and disordered by cross branches. The lode in No. 2 winze, sinking below this level, is 2 ft. wide, and will yield 2 tons of ore per fm. The lode in the 60, west of Hand's shaft, is 1 ft. wide, containing stones of yellow copper. The lode in the 50, west of Hand's shaft, is 2 ft. wide, and of a kindly appearance, producing 1 ton of ore per fm. The lode in the 40, west of Hand's shaft, will produce 2 tons of ore per fm. All other places are without change since our last report.

PROVIDENCE.—W. Holloway, March 22: Our setting on Friday last was as follows: 73 men on tarrow, and 100 on tribute, at an average of 10s. 9d. in 1L. REDMOOR.—T. Taylor, March 21: In the bottom of our engine-shaft there is a cross-course, which has disordered the lode; we shall probably have this cross-course in the shaft to the 40; it will be favourable for cross-cutting to the north and south lodes. The shaft is re-set to nine men, at 151, per fm., to sink, fix timber, &c.

ROARING WATER.—H. Thomas, March 21: In consequence of the water we have not been able to sink much in the lower stope, on Grady's lode, during the past week, therefore I put the men to stop the western end from the bottom upwards, where the lode is looking remarkably well, producing the richest description of purple ore. We broke one lump on Monday last weighing ½ cwt., the finest specimen of the kind I ever saw; when such rich and beautiful ore is found in a fine congenial lode in the 18 fm. level, I think it very reasonable to expect large quantities of the same description of mineral underneath. There is also a very important feature of its continuance—the ore is lengthening as we get down. The slope west of Bush's shaft is large, and producing a good mixture of yellow and purple ore; the former appears to be the prevailing mineral. As there are a great many tons of ore on the floors, I have employed three spallers to prepare it for crushing. I expect to set Grady's shaft to sink on the course of the lode some day next week.

ROBOROUGH DOWN.—Thomas Foote, William Johns, March 20: There is no alteration in the 20 east since last reported on, as we are driving by the side of the lode. The end is still letting down the water from the Trial shaft. There is no change to notice in the slope since last report. The water is drained down from the Trial shaft 7 fms. 2 ft., and we calculate on being able to sink this shaft again next week.

ROSEWARNE CONSOLS.—T. Uren, J. Berryman, March 22: We have had a breakage in Ellen's shaft, which has hindered us more than a week in the prosecution of the different operations, and will also cause a little falling off in the next sampling; but we are glad to say it is now repaired, the water forced, and the men have resumed their work.

ROSEWARNE UNITED.—T. Richards, E. Cartwheel, W. Temby, March 23: Giesler's engine shaftmen have completed dividing, casting, and bed-plancking the shaft from the 50 to the 60, and are at present engaged in cutting plat at the 60, which will be completed against the middle of next week. The lode in the 50 east is at present unproductive. The lode in the 50 west contains stones of copper ore. All our stops are at present working on tribute, two at 2s., and one at 1s. 6d. in 1L. The other bargains are without change since last reported.

SORTING CONSOLS.—Robert Jackson, March 23: In Mayne's cross-cut, in the 50 south, the ground is favourable for driving, and good progress has been made. In the 50, east of Mayne's cross-cut, on No. 1 south lode, the lode is 1½ ft. wide, yielding good stones of ore. In Gilbert's rise, in back of the 40, on No. 1 south lode, the lode is 2 ft. wide, composed of spar, gossan, prian, and stones of ore. In the 20, east of the engine-shaft, on the south part of the main lode, the lode is 2 ft. wide, yielding good saving work. In the deep adit level, driving east, the ground is easy for driving, and congenial for mineral. There is no change to notice in any other part of the mine.

SOUTH ALFRED CONSOLS.—J. Pope, March 23: We have taken down the lode in the 20 west, which is 20 in. wide, producing fine stones of rich copper ore, and from its appearance I expect a good course of ore shortly. We have also taken down the lode in the 20 east, which is 15 in. wide, composed of soft spar and peach, intermixed with ore throughout, a very promising lode; as soon as we have completed the shaft to this level nearly the whole of the backs will be taken away on tribute, when I hope the time is not far distant when South Alfred Consols will appear in the Ticketing List.

SOUTH CONDURROW.—J. Vivian, Wm. Williams, March 18: The 20 cross-cut, south from the engine-shaft, has been driven to within a short distance of the same level north from West Bassett lode, and we purpose commencing to bore through on Tuesday next, and have passed through a lode about 15 in. wide, composed of ferruginous gossan, with a little copper, but not sufficient to value; we purpose continuing this cross-cut north. In the 10, west of engine-shaft cross-cut, on middle lode, the lode is 15 in. wide, composed of quartz and gossan, impregnated with black and grey copper ore. In the deep adit level, west of new shaft, on West Bassett lode, the lode is 2 ft. wide, composed of gossan and soft quartz, impregnated with tin—a very kindly lode. We have commenced sinking King's shaft from the surface on West Bassett lode, and it is now 6 feet deep; this shaft will be perpendicular to the 20, where it will take the lode, will be adapted for the pitwork, and is in a good position for commanding both the eastern and western portions of our sett on this lode.

SOUTH CRENVER.—Edward Chegwin, March 21: In the adit end, driving west of cross-cut, on north lode, the lode is 9 inches wide, producing stones of muriatic, with spots of copper ore.

SOUTH DARREN.—J. Boundy, March 20: The various points of operation in the mine are progressing most satisfactorily. In the 60 west the lode is 2½ ft. wide, and worth 151, per fm., and likely to improve. In the 50 west the lode is very wide; at present we are only carrying the south part of it; we shall commence taking down the other part this week, after which I shall be better able to speak of its value. In the 40 west the lode is 2½ ft. wide, and worth for lead and copper 181, per fm., with every appearance of the lode continuing good. In the 30 west the lode is still disordered, and for the present poor, but from the character of the lode to-day I expect an improvement here shortly. The lode in the 20 west is 18 in. wide, containing a little lead and copper, at present not quite enough to value, but is showing indications of improvement soon. We have cleared up the air-shaft, which I find has been sunk 3 fms. below the 20, driving west of the 20, which the lode is still disordered, and for the present poor, but from the character of the lode to-day I expect an improvement here shortly. The lode in the 20 west is 18 in. wide, containing a little lead and copper, at present not quite enough to value, but is showing indications of improvement soon. We have cleared up the air-shaft, which I find has been sunk 3 fms. below the 20, driving west of the 20, which the lode is still disordered, and for the present poor, but from the character of the lode to-day I expect an improvement here shortly. The lode in the 20 west is 18 in. wide, containing a little lead and copper, at present not quite enough to value, but is showing indications of improvement soon. 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days, the like of which I never saw before here in March; it has been continually snowing, more or less, so that the railway from Miocle to La Roncouse has been quite blocked up. We hope soon to have a change. Nothing has been done at out-door work.

ALTEN AND QUÉBEC.—Under date Feb. 28, Captain C. Trelease writes that Cedar's lead, in Quénangen, has not yet recovered its former productiveness, but it is still gradually improving. The ore dredging, as well as other matters, is going on satisfactorily, and they fully expect to show good results on the setting in of spring.

CAPE COPPER.—The superintendent writes: "From the reports for the past month you will perceive good progress is making at the mines. From Oskiep the extraction amounted to 251 tons, averaging 27½ per cent.; and from Specataek 54 tons of 50 per cent. No. 1 Trial level, at Nataabap, continues to show spots of rich ore, but Capt. Gosses estimates that three months longer will be required for this work, to cut through the line of probable dip of oreay ground. Mr. Davis has been making good progress during the past month, also with reduction of refuse ores at Oskiep and Springfield, averaging 8 to 9 per cent." A large quantity of ore was still lying at the mines waiting for transport, but the superintendent states that he has confidence in altered arrangements bringing a large increase to the number of carriers. The *Rondinelle* was loading a cargo of about 500 tons of ore at Hondekulp for Swansons, and had 50 tons on board.

WEST CANADA.—Capt. Plummer, Feb. 16: Huron Copper Bay: The 20, east of the new engine-shaft, is much the same, yielding about 2 tons per fm. The 10, west of ditto, is poor. The stopes in bottom of the 10, east of new shaft, yields 3 tons, and that on the west of Palmer's 4½ tons per fm. There is no change since last report in the cross-cut north of Palmer's. The stops in bottom of the 10, west of Palmer's Fire lode, yields from 2½ to 3 tons per fm. The winze below the 20, east of Bray's, yields 5 tons per fm. The winze below the 20, east of ditto, is poor. The 30, east of Bray's, contains a promising lode, worth 3 tons per fm., and that in the west of ditto is of a similar character, both looking well.—Wellington: The level on the west of Grenfell's is going on well, yielding 2 tons per fm. The stopes on the east and west of Bowe's winze, below the 20, are worth from 2½ to 3 tons per fm. each. The stopes on the east of Hooper's shaft is worth 3½ tons, and in the west of Bowe's 3 tons per fathom. The stopes west of Knight's Fire lode is worth 2 tons per fm. Knight's continues poor. The lodes in the bottom of the shaft in a disordered state. The stopes east and west of Ceiling's are turning out well—much better, in fact, than we expected, yielding respectively 2½ tons per fm. On the west of Knight's winze the lode is worth 3½ tons; on the west of Crebs's, 2 tons; and on the west of Jack's, 1½ ton per fathom. The new engine-shaft, on the north lode was going on famously until the other day, when we opened upon a large stream of water. We have gone on hoping it would decrease after the first rush, but it continues quite strong, and we fear it will be permanent. The lode has not changed. The tribute pitches are doing pretty well, both on the Wellington and on the Bruce. At the latter place we have from 25 to 30 tons of ore on hand. I am happy to tell you that our general progress is favourable, and our prospects somewhat encouraging. For January we raised 248 tons, and dressed 175 tons: during a part of the month we were working on toppings, which accounts for the smallness of the quantity that was dressed.

NEW WILDEBORG.—M. Ferdinand, March 18: The 40 cross-cut, driving north from Carter's shaft, is in very hard ground; in fact, we never saw a much harder stone in this mine, but the cross-cut south is not quite so hard. In the 30 we are driving west, on the hanging part of the Dornbergan lode, which part is at present unproductive. The same level, driving east on the Erbtefatergang, is producing a little ore—say, from 4 to 5 cwt. per lachter. The lode in the bottom of Conder's sink, about 12 fathoms in advance of this drivage, is worth fully 3½ tons of silver-lead ore per fm. At Davey's workings the men are busily engaged putting in timber and securing the ground preparatory to sinking below the 20. The lode, we are glad to say, both in back and bottom of the level, is worth fully 3 tons of silver-lead ore per lachter. There are no further alterations in any of the drivages or sinks since the date of last report. Next week a more detailed report shall be sent.

MINING IN SPAIN—No. I.

The number of concessions of mines, exhausted mines, and quarries in Spain appears in 1862 to have been 6581, according to a table based on data furnished by the civil governors of each province. The number of productive mines amounted to 1286, according to another table prepared by district or provincial engineers. The productive concessions were thus in the ratio of 19·54 per cent., or about one-fifth, to the total number of concessions granted. This proportion of one productive mine to every five in working may appear small to those who are not aware what happens in this regard in the majority of countries as regards their mines, products of a certain description excepted. At the same time, it may be concluded with some justice that the number of productive mines in the Peninsula might become greater if the large number of works undertaken could be watched over in a suitable manner. This result cannot, however, be attained with the present limited and insufficient staff of district engineers. In effect, 45 engineers are divided over 17 districts of the Peninsula, and, deducting the 17 engineers-in-chief, there remain only 28 engineers to inspect and control 6581 workings, without taking exploratory galleries and shafts into the calculation. Each engineer has thus 233 mines to watch over, and even this average does not represent the reality in many provinces, such as Almeria, for example, where 424 concessions devolve on the inspection of one engineer, concessions of a painful and even dangerous character, as these mines are situated in localities difficult of access, on arid and steep mountains; so that it is almost impossible for an official to fully ascertain their position, and to class them individually as productive or unproductive in their operations. They have accordingly to be simply returned either as mines in activity or as mines which have suspended their works. In order to perfectly appreciate a comparison between productive mines and the whole of those which are in working, it would be necessary to acquire a complete knowledge of the number of unproductive mines which have maintained works in each province, and of the number of workmen whom they have occupied. The total and united production of the different substances comprised in the first category of the official data on which we base our article, and which, excluding salt-springs, have been the object of mining operations, amounted in 1862 to 1,201,059 metrical tons, produced by 31,800 workmen; so that each workman obtained in 1862 a return of 37 tons. The different substances which form the total production extracted from Spanish mines may be grouped under four heads—metallic substances, non-metallic substances, iron minerals, and combustibles. The relative importance of each classification was as follows, in 1862:—Metallic substances, 571,956 tons; non-metallic substances, 26,970 tons; iron minerals, 213,192 tons; and combustibles, 388,941 tons; total, 1,201,059 tons, or an average of 936 tons for each productive concession. The production of substances modified by metallurgy was as in 1862:—Metallic substances, 67,486 tons; non-metallic substances, 5493 tons; iron substances, 79,296 tons; total, 152,275 tons.

The "metallurgical substances" are the nursery, so to speak, of the mineral production of the Peninsula, the wealth of which has attracted the notice at various times, and under varied circumstances, of the different states of Europe, which have been astonished from time to time by the successive discoveries which have sustained the courage of the enterprising men engaged in a subterranean struggle with Nature in the Spanish soil. Lead, mercury, copper, silver, zinc, tin, and other matters constitute the mineral production of Spain. Lead is at the head of all these metals, both as regards its general richness and the abundance with which it is scattered over the soil of the Peninsula. In all, 21 provinces contribute to the mineral production of Spain, and of these 11 sustain a part in the supply of this metal, especially the provinces of Almeria, Murcia, and Jaen, the three points from which is thrown on the markets of the world that important mass of lead which forms one-fourth or one-fifth of the value of the Spanish export trade. The three provinces mentioned produced in 1862 no less than 56,598 tons of lead, or 90 per cent. of the whole of the lead found in Spain. The provinces of Grenada and Ciudad-Real produced 5250 tons, or 8·36 per cent. of the whole national supply of lead for the year, leaving only 1·64 per cent. to be contributed by the remaining provinces. Copper ore figures, as regards extraction, in the returns from five provinces, while in respect to its treatment it is spread over five provinces. But the only important province as regards the production of copper is that of Huelva, which yielded 2812 tons of refined copper in 1862, of which 1311 tons, or 46·64 per cent., were supplied by the Rio-Pinto Mine, belonging to the State. This seems a convenient point at which to suspend our first sketch of modern—at any rate comparatively modern, although we confess 1862 seems in such rapid times as those in which we live almost a remote era—Spanish mining enterprise.

THE SEWAGE QUESTION.—On Monday a petition was presented by Mr. Tite, M.P., to the House of Commons from our correspondent, Mr. George Shepherd, C.E., against the Sewage Utilisation Bill. Mr. Shepherd's opinion of this bill is that it is utterly useless, and that the provisions contained therein give no power to the local boards to dispose of the sewage. We are informed that a new bill will be shortly brought before the House of Commons for this purpose.

The share-list of the San Pedro del Monte Silver Mining Company (Limited) closes on Tuesday next, the 23rd inst.

Messrs. G. S. Beecroft and H. Hardie have joined the direction of the El Chico Silver Mining and Reduction Company.

THE SLATE TRADE—ITS STATE AND PROSPECTS.—The highly satisfactory position of the SLATE TRADE—the demand being so much greater than the supply—renders all information respecting it of general interest. Some three years since a descriptive pamphlet was issued by Mr. T. C. Smith, of which two editions of 5000 each were speedily disposed of; this has now been reprinted, with much original matter from practical authorities in the several districts, and particulars of most of the quarries at work, explanatory of their state and prospects. The new work is published at 1s. each, and can be had at our office.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MARCH 24, 1865

COPPER.	£ s. d.	£ s. d.	BRASS.	Per lb.
Best selected.....ton	89	0	90	0
Tough cake.....	87	0	88	0
Wire.....	87	0	85	0
Burns Burns.....	92	0	90	0
Copper wire.....lb.	9	1	10	0
ditto tubes.....	9	1	1	0
Screwing & bolts p.ton	98	0	96	0
Bottoms.....	100	0	95	0
Old (Exchange).....	91	0	—	—
IRON.	Per Ton.			
Bars Welsh, in London.....	7	2	6	7 10
Ditto, to arrive.....	7	2	6	—
Nail rods.....	8	10	—	—
" Stafford, in London.....	8	10	0	9 15
Pins ditto.....	9	12	6	10 0
Sheets, single.....	10	7	6	11
Pig No. 1, in Wales.....	4	10	0	—
Redined metal, ditto.....	5	0	5	0
Common, ditto.....	5	0	6	5 0
Do., merch., Tyne or Tees.....	7	10	0	—
Ditto, Railway, in Wales.....	6	0	6	10 0
Ditto Swed, in London.....	11	10	0	12 0
To arrive.....	12	0	—	—
Pig, No. 1, in Clydes.....	3	11	6	2 17
Ditto, f.o.b., Tyne or Tees.....	2	9	6	—
No. 3, f.o.b. do.	3	6	2	5 8
Railway chairs.....	5	10	0	5 15
" spikes.....	11	0	0	12 0
LEAD.	Per Ton.			
English Pig, ordn. soft.....	20	5	0	—
Ditto (WB).....	21	12	6	—
Ditto sheet.....	21	6	—	—
Ditto red lead.....	23	0	—	—
Ditto white.....	26	0	26	5 0
Ditto patent shot.....	23	0	—	—
Spanish.....	19	10	0	—
* At the works, Is. to 1s. 6d. per box less.				

REMARKS.—Although the Metal Market is far from being in a satisfactory condition, yet there are appearances of a better state of things arising ere long. During the past week there have been more enquiries, and buyers seem rather more disposed to give out orders; but the deplorable Lock-out in Staffordshire is a great hindrance to business in iron, and the great uncertainty as to how or when the present state of affairs is to terminate is causing a general stagnation in that particular branch of the metal trade. It is very desirable that some means should be adopted by which both strike and lock-out could be avoided for the future, and some plan of arbitration established by which all differences between masters and men could be settled without resorting to those measures so ruinous to both parties, and which cannot be taken without serious damage to all concerned in the iron trade, besides being so calculated to drive the trade from this country to others; and, should this once be done, it will not be so easy a matter to recover the trade which may be thus lost. Orders from India still continue very limited, but to some other parts of the East, from which there has been lately almost an entire cessation of business in metals, a few orders have arrived, which may be taken as an earnest that a revival of the trade in metals will soon take place in those countries.

COPPER.—The market for this metal still continues rather firmer, and a little better business is now doing, especially in manufactured. Prices remain about the same as last week.

IRON.—In Staffordshire the iron trade is at a standstill, owing to the lock-out, but at present there is no great pressure by purchasers.

Advices from the United States are to the effect that there is no hope of orders being sent from that market for iron, except at a further reduction of 1s. per ton.

The lock-out is gradually leading to the partial stoppage of the mines; and, should it last a week or two longer, blast-furnaces will be blown out, and the number of men unemployed will be greatly increased.

A warning to the English iron trade is being given by a circular offering to supply Belgian manufactured iron in any quantity, and of all variations

and degrees of quality, at prices lower than those quoted in the regulated lists of the Association, and quite as low as the selling prices of any English ironmaster in the trade.

The quarterly meeting of the Association is now nearly at hand, and we shall see what influence the lock-out may yet have on the scale, which is agreed to as a general standard, but which binds no individual firm, even those belonging to the body. In Welsh, there is a better enquiry for certain descriptions of iron, consequent upon the stoppage of the works in Staffordshire; but whether this will continue is another question.

At present makers are fairly supplied with specifications, and the works are, as usual, in regular employ.

When the Staffordshire works were in operation a large quantity of puddled bars were sent there by the Welsh makers; and the fact that this demand has ceased

has rather neutralised the effect of the improvement from other markets.

The South Wales ironworkers entirely disapprove of the conduct of the men in Staffordshire, and have declared that they will not assist them in any way.

In Swedish iron prices are still looking up. In Scotch pig-iron a better business has been done during the week, and prices have advanced.

At the commencement of the week they stood at 50s. 4d. cash, and 50s. 7d. one month, but have since advanced to 50s. 7d. cash, and 50s. 10d. one month; and at last advices business was done at 50s. 9d. cash, and 50s. 10d. to 51s. one month.

LEAD.—The demand continues very moderate, and prices still remain at 20s. for common English pig, 20s. 5s. for LB, and 21s. 12s. 6d. for WB.

TIN.—A considerable amount of business has been done in Straits during the week, but it has been at a reduction in price, about 3000 slabs having been sold at 86s. cash, and more recently business has taken place at 85s. 10s. to 86s. cash, which may now be considered the quotation.

BRASS.—The market remains inactive. Transactions on the spot have taken place at 19s. 5s. to 19s. 10s.; and for forward delivery, 19s. 10s.

at which prices the market is steady.

TIN-PLATES.—Makers are still increasing their stocks, and prices continue to be low.

STEEL and QUICKSILVER have undergone no change.

BIRMINGHAM, MARCH 24.—Rydlands' "Iron Trade Circular" says:

The principal business on our market has been the clearing out of old stock, but as buyers disbelieve in the duration of the Lock-out, and will

not allow prices to go up, we quote them without alteration, excepting that Welsh masters are even firmer in regard to orders than last week,

and quote 6s. 10s. to 6s. 15s. at works. The agents for Belgian firms, who were in hopes of running in their iron, are disappointed at the paucity, if not entire absence, of orders.

THE IRON TRADE IN SCOTLAND.—The Gartness Ironworks, which have been undergoing extensive repairs for several months, have been set in operation, six puddling-furnaces having been put in blast. There are already nearly 100 men employed at the works.

At a meeting of the Scottish malleable ironmasters, held in Glasgow, it was unanimously resolved

—first, that a reduction should be made of 1s. per ton on the wages of paddlers, and of 10 per cent. on the wages of millmen and others, and that 14 days' notice of this reduction should be given on Saturday, March 25; and, secondly, that the Scottish ironmasters shall not employ

workmen coming from the districts of England where the men are at present on strike or locked-out.

THE LIVERPOOL METAL MARKET—MARCH 23.

PIG-IRON.—Market depressed, without change in price. Some enquiry for hematite pigs, which are quoted at 6s. to 7s. in Liverpool.

MANUFACTURED IRON.—The continuance of the Lock-out, and the im-

possibility of masters coming to anything like a settlement, continues to stiffen prices for immediate delivery.

Most of the South Wales makers are very full of orders, and many of them refuse to book further lots at present prices.

Welsh bars are quoted 7s. in Liverpool, 6s. 10s. f.o.b., in South Wales, less 3 per cent.

Bess ship-plates are offering at 9s. 10s., or 1s. per ton higher than was quoted a month ago, and considerable speci-

fications have been given out at this price.

Almost any price can now be got for lots from stock in Liverpool, and most of our merchants who hold stock are raising their prices.

COPPER.—In better demand, with prices somewhat stiffer.

TIN.—The makers of English

MARCH 25, 1865.

THE MINING JOURNAL.

transacted in Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—East Lovell, 10s. 10d.; Great Wheal Vor, 32s. 32s. 32s. 32s.; Wheal Seton, 19s.; East Bassett, 16s. 19s.; Chiverton, 5s.; Great Laxey, 18s. 18s. 19s.; Grenville, 4s.; East Caradon, 15s.; West Bassett, 7s. 7s.—In Colonial Mining Shares the prices were:—Cape, 10s. 10s. 10s. 11s.; Fort Phillip, 1s. 1s.; Scottish Australian, 4s.—In Foreign Mining Shares the prices were:—United Mexican, 4s. 4s. 4s.; Santa Barbara, 2s.; Montes Aureos, 2s.; Washoe, 8s.

IRISH MINE SHARE MARKET.—The recent daily upward movement in the price of the shares of the Mining Company of Ireland has experienced a slight check, which is sure to continue if investors and speculators will calculate the dividends per cent. they are likely to receive, which, though most undoubtedly of a permanent character, are for that very reason not subject to such sudden increase in amount as to satisfactorily account for any great advance in the price of the shares. For the last few days they have been ineffectually offered at 32s. 10s. for cash, but for July account they were dealt in at 33s. 15s. (7s. paid), being a reduction of about 2s. 6d. per share. Wicklow Copper shares are in constant request, and have in one or two instances been done at 13s. 17s. 6d. (2s. 10s. paid), being an advance of 2s. 6d. on last week's quotation, but a trifling reduction is now demanded. Connemara were steady at 22s. 6d., but Carysforts barely supported 9s., and General Mining Company for Ireland 4s., or par, per share. In Kingstown Harbour there is at present a large number of vessels engaged to carry the ore from the Vale of Ovoca to various English ports, to the extent of many thousand tons.

The Val-Sassam Mines Company, with a capital of 60,000*l.*, in shares of 10*s.* each, has been formed to purchase and develop some extensive mines of lead and copper ores, rich in silver, in the Val-Sassam, Canton Grisons, Switzerland. The concession, granted by the Landschaft in 1862, embraces the right to work all mines except coal and iron within the entire district, extending from Thusis, on the well-known "Via Mala," 20 miles in the direction of the Splügen, and being about 12 miles wide. No rent or royalty whatever is payable on the produce, the sole charge being a small fine, payable every tenth year. The simple fact that, after full examination of the property, Messrs. John Taylor and Sons have accepted the management of the company, is a sufficient guarantee that the concern presents an advantageous opportunity for investment to the English capitalist, and that it will be managed with energy, ability, and integrity. The workings have been inspected by the agents of the firm mentioned, and the operations have been carried on upon behalf of the company since October last, so that an ample means of testing the property has been obtained. The principal mines now open are the Osera, an argenteriferous copper mine, and the Tospino, a lead mine. The ores from the Osera Mine when properly dressed are worth from 80*s.* to 100*s.* per ton, and those of the Tospino 35*s.* per ton. The purchase-money for the concession and the whole of the buildings, plant, machinery, tools, and apparatus, as well as the works and stock of ore extracted, has been fixed at 18,000*l.* A large number of shares has been already applied for from Switzerland, but the directors have reserved the right of allotting not less than two-thirds of the whole number in this country. The prospectus will be found in another column.

The South Wales Consolidated Lead Mining Company, with a capital of 20,000*l.*, in shares of 10*s.* each, has issued its prospectus, which will be found in another column of this day's Journal. The object of the undertaking is to purchase and work the Cwmbran, Cassara, Pentwyn, and Lady Eliza Mines, in Carmarthenshire, and within four miles of Llantadog Railway station. The country is clay-slate of a lead-bearing character, in which the Nant-y-Mwyn Mines, not far distant, have been for many years very profitably worked by Messrs. Williams, the smelters, of Cornwall. The leases are for 21 years at 1-15th royalty. The Cwmbran has long figured in the lists of ore sales, and could, it is considered, be made self-supporting at once. There is an ample plant and machinery, as well as reservoirs for supplying the dressing-floors in dry weather. The consideration agreed to be paid for the purchase of all the existing rights in the mines and properties, including all machinery, buildings, and the whole of the plant, is 5000*l.*, one-half in cash and the remainder in shares paid up to 5*s.* The properties to be worked by the company have been inspected and favourably reported upon by Capts. J. Roach, A. Waters, T. Goldsworthy, J. Williams, and I. Kemp, all of whom concur in regarding the mines as a thoroughly good speculation, and such as can confidently be recommended. The directors are to be appointed at the first meeting from among the shareholders.

At Truro Ticketing, on Thursday, 5373 tons of ore were sold, realising 25,590*l.* 18s. 6d. The particulars of the sale were:—Average standard, 134*s.*; average produce, 5*s.*; average price per ton, 42. 15*s.*; quantity of fine copper, 300 tons 18*s.* cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Per unit.	Ore copper.
Feb. 23.	4801.	128	8	51s.	24	7 s. 6 d.
March 2.	3605.	126	0	52s.	4	9 0
" 9.	3116.	123	5	61s.	5	8 0
" 16.	2387.	127	6	61s.	5	8 0
" 23.	5373.	134	3	59s.	4	15 0
					17	0
					85	0 6

Compared with last week's sale, the advance has been in the standard 2*s.* 10*s.*, and in the price per ton of ore about 3*s.* Compared with the corresponding sale of last month, the advance has been in the standard 7*s.*, and in the price per ton of ore about 8*s.* The standard was 8*s.* 12*s.* better last week than at the corresponding sale in 1863; whilst as compared with the sales in 1862 and 1864, there is no material difference. The copper-producing mines are, therefore, as favourably situated, as regards the sales of their ores, at the present time as they were in 1864, and are receiving a very much better price than they did in March, 1863.

The directors of the Devonshire Great Consolidated Copper Mining Company, at their board meeting, held yesterday, declared a dividend of 9216*l.*, per share, arising from profits on sales of copper ores sampled in the months of Nov. and Dec. After payment of the same, there remains in hand a balance of 21,148*l.* 1s. 10*d.* in cash, ore bills not at maturity, and reserved fund applicable to the general purposes of the company.

At the Foxdale Mines (Isle of Man) quarterly meeting, on March 18, the directors declared a dividend of 1*s.* per share.

At the Great Wheal Vor United Mines meeting, on Wednesday (Mr. George Noakes in the chair), the accounts, made up to the day of meeting, showed a balance of assets over liabilities of 6498*l.* A dividend of 1*s.* per share was declared, to be carried forward to the next account. Details in another column.

At the West Bassett Mine meeting, on Wednesday, the accounts showed a return carried over from last meeting, 2471. 11s. ; copper ore sold, 4986*l.* 0s. 9*d.*; stores sold, 11. 18s. 6*d.*; fines, 11. 18s. 6*d.*; advanced on tribute, 260*l.*; tin sold, 251. 44*d.*; return income tax, 14*s.* 2*d.*; poor rates, 120*s.* 4*d.*; property and income tax, 246*l.* 15*s.* 4*d.*; royalty, 33*s.* 9*d.*; boundary costs, 51. 5*s.* 7*d.*; advanced on tribute, 280*l.*; sundries, 17*s.* showing credit balance, 146*s.* 3*s.* 8*d.* A dividend of 1800*l.* (6*s.* per share) was declared, and 146*s.* 3*s.* 8*d.* the balance and the proceeds of sales of ore not at maturity amounting to 4054*l.* 11s. 4*d.*—4200*l.* 15*s.*, applicable for the general purposes of the adventure carried over to the next accounts. A letter from Mr. Finch, the solicitor of the mine, was read, stating that the appeal had been presented to the House of Lords in the action of Lyle v. Richards.

At Wheal Buller meeting, on Tuesday, the accounts for January and February showed a debit balance of 104*l.* 7*s.* 5*d.* The loss on the two months' working was 212*l.* 0*s.* The loss would have been much more had not the costs been curtailed, and the discovery by one pair of tributaries, which returned one half of the tin credited. The report of Capt. James Inch and John Dyer will be found in another column. The resolution for abandoning the mine was rescinded, and a committee was appointed to endeavour to effect an amalgamation of Wheal Buller, Old Wheal Buller, and Copper Hill sets on the most advantageous terms for all parties.

At the St. Day United Mines meeting, on Monday (Mr. Balster in the chair), the accounts showed a credit balance of 462*l.* Details in another column.

At West Damself Mine meeting, on Tuesday, the accounts showed a debit balance of 278*l.* The profit up to the two months' operations was 236*l.* It had been deemed expedient to buy Old Wheal Damself materials at a cost of 1550*l.* of which 100*l.* was charged in the account submitted.

At the Leawood Mine meeting, on Thursday, the accounts for the ten months ending January showed a debit balance of 278*l.*, including the whole price of the new 60-inch engine. The shares were multiplied from 24 to 3000, giving each shareholder a pro rata increase, and a call of 1*s.* per 3000th share was made. An accident in the shaft had delayed the operations for three months, but all is now well secured. They have only just seen the copper lode in the 19 fathom level under adit, and have not yet got in to the lead lode. With regard to the copper lode, the agents say that it is from 3 to 5 feet wide, "composed of gossan, quartz, fluor-spar, and splendid stones of copper ore; in fact, but few mines have lodes presenting such appearances at the same depth." They have begun to drive east on the lode, at 35*s.* per fathom, where the lode has a very promising appearance." Captain James Richards, of Devon Great Consols, having had 25 years' experience in the mining districts of Devon and Cornwall, and in the London market, with daily information of important changes from qualified agents, also the most authentic reports relating to other investments, he is in a position to afford the earliest information to his clients, and to direct capitalists whether to buy or sell in mines, railways, or other securities.

Investors should apply to him for reliable information relative to the Chiverton Mines also the Camborne and Illogan districts.

A carefully selected list of sound progressive and dividend shares (certain to give a large percentage immediately) forwarded on receipt of 5*s.* in stamps.

Orders and telegrams receive immediate attention.

At Great Wheal Fortune meeting, on March 17, the accounts for the three months ending November showed a debit balance of 3674*l.* 16*s.* 8*d.* A call of 2*s.* per share was made. Captains Vivian, Miners, and George reported that although the mine throughout is at present poor, the prospects are good. They have 267 hands employed. Capt. Charles Thomas, having inspected the mine, made certain suggestions with reference to future workings, which, with the ordinary operations, will, he considers, probably lead to some improvement shortly.

At the Hallenbeagle Mine meeting, on Monday (Mr. J. A. M. Pinner in the chair), the accounts showed a debit balance of 1534*l.* 16*s.* 5*d.* A call of 5*s.* per share was made. Capt. E. Richards was appointed manager, at a salary of ten guineas per month. The committee of management were re-elected, and Messrs. Luke, McKeand, and Permeau were elected a local committee. The report of the agents stated that, looking at the general prospects of the ore ground already seen in great length on the north and south lodes, and also on Reed's, with the small water charge, it was evident a large productive mine would here be opened up at a very trifling monthly cost. The late heavy flood had interfered with underground operations; but, as the water drains the tributaries and tuftwork men soon be able to resume the working of the pitches and bargains; and, looking at the past returns and present prospects, it might be considered that during the coming summer the mine would be a dividend-paying adventure. They estimated their returns for the next four months to be about 2500*l.*, and the cost for the same from 2600*l.* to 2800*l.*

At the North Dolcoath Mine meeting, on Monday (Mr. Bingham in the chair), the accounts showed a debit balance of 964*l.* 5*s.* 3*d.* A call of 4*s.* per share was made. It was stated that a cross-cut was being put out northward, in order to prove all the lodes in connection with the elvan course. The appointment of Mr. W. Lavington secretary was confirmed. The committee were empowered to take legal proceedings against all shareholders in arrear of calls.

At North Jane mine meeting, held in Leeds, on March 20, the accounts ending December showed a credit balance of 151*l.* 1*s.* The office of management, &c., is to be removed to London. Details will appear in next week's Journal.

At East Wheal Vor meeting, on Thursday (Mr. Foord in the chair), the accounts, including February cost, showed a credit balance of 253*l.* Details in another column.

At East Wheal Russell meeting, on Wednesday (Mr. Joseph Procter in the chair), the accounts showed a balance of liabilities over assets of 365*l.* 1*s.* 4*d.*, and the loss on the three months' working was 1211*l.* 13*s.* 1*d.* A call of 1*s.* per share was made. Details in another column.

At New Hendra Mine meeting, on Wednesday, a call of 1*s.* 10*s.* per share was made.

At the Gellivara Company meeting, on Wednesday (Mr. G. B. Kitson in the chair), the Chairman stated that negotiations had been concluded with a London house of the highest standing for carrying out the iron trade for the next two years. Therefore, as far as they had gone, they might congratulate themselves on having conducted their affairs successfully. He would direct their special attention to the most important consideration—the construction of the railway. The estates had been visited by their engineer and several gentlemen who had gone there from this country, and it appeared that there were no engineering difficulties to surmount in the construction of the works, and that they might be rapidly carried on, with the aid of sufficient means. A proposition was made to convert the shares into shares of smaller amount, but the legality being questioned, the consideration of the subject was postponed. Mr. Kjellberg, the managing director, stated that the value of the property consisted not solely in the inexhaustible supply of mineral, but in the facility of procuring it, and converting it into steel. The retiring directors and auditors were re-elected.

At the Don Pedro North del Rey Gold Mining Company meeting, on Thursday (Mr. Haymen in the chair), the report of the directors was adopted. Details in another column.

TRURO MINING MARKET.—Owing to the drop in tin of 4*s.* per ton, the tin mines are much depressed. Wheal Jane, which some eight or ten months since sold freely at 14 to 16*s.*, are now down to about 6*s.* to 7*s.*, although the mine, as I learn, never looked better: at their last meeting they decided on the immediate erection of a steam-stamps, and a committee was appointed, consisting of Mr. C. Hawke, Dr. Tom, and others. The lead mines never looked so well as now since the stopping of East Wheal Rose. West Chiverton never looked better; price 58 to 60*s.* Great South Chiverton adjoins this mine south, in which they have cut a fine lode of lead, gossan, and blende; the lode is from 2*s.* to 3 feet wide, and has every appearance of making a rich lode in depth. In a few fathoms further driving they will cut a counter lode, which may be traced direct through the country from Old Shepherds. Capitalists will do well by watching this property. At North Chiverton meeting, on Friday, a call of 5*s.* per share (1500*l.*) was made. A committee was appointed, of which Dr. Tom, of Truro, is a member. I have just seen a mine agent of great experience who has just come in from the mine; he tells me they have a fine lode in the new engine-shaft. The prices are as follows:—Budnick Consols, 10*s.*; Wheal Hope, 20*s.*; North Shepherds, 4*s.* to 5*s.*; North Jane, 12*s.*; Wheal Jane, 6*s.* to 7*s.*; Nanglais, 12*s.*; Falmouth and Sperrys, 15*s.*; Cargoil, 3*s.* to 3*s.*; West Wheal Jane, 5*s.*; South Crofty, 14*s.* to 16*s.*; Wheal Rose, 32 to 39*s.*; Wentworth Consols, 7*s.* to 8*s.*; Mineral Bottom, 4*s.* to 5*s.*

OUR IRON AND STEEL EXPORTS.—It is a remarkable fact that, while our exports of iron and unwrought steel amounted to 1,494,630 tons last year, as compared with 1,640,949 tons in 1863, the value of last year's exports was 13,214,294*l.*, against 13,150,936*l.* in 1863. The annexed figures show the progress of this branch of our exports in the last 15 years:—

Year.	Tons.	Value.	Year.	Tons.	Value.
1850	783,424	£5,250,056	1858	1,349,058	£11,197,072
1851	919,479	5,850,370	1859	1,465,191	12,514,437
1852	1,035,804	6,684,296	1860	1,442,045	12,154,997
1853	1,261,372	10,845,422	1861	1,322,694	10,326,646
1854	1,196,663	11,674,675	1862	1,501,451	11,363,150
1855	1,092,735	9,465,642	1863	1,640,949	13,150,936
1856	1,438,900	12,966,109	1864	1,494,630	13,214,294
1857	1,532,386	13,603,337			

It cannot be said that any material advance has been made since 1857. This is to be attributed to the stationary—and, in fact, the diminished—demand for railway iron, in consequence of the progress now made with the great Indian lines, and the substitution in part of Belgian for English railway iron in Spain.

WILLIAM VERNON VENABLES, F.S.S., M.S.A., OPENS HIS ESTABLISHMENT (as at foot) THIS DAY, for the CONDUCT of BUSINESS in the FOLLOWING BRANCHES:—Arbitration, Auditanship, Liquidation of Public Companies, Insurance in all its branches, &c. Vernon House, 20, Canonbury Villas, N., and Cannon-street, E.C., March 26, 1865.

JOINT-STOCK COMPANIES ACCOUNTS.—A GENTLEMAN, EXPERIENCED in KEEPING THE ACCOUNTS OF JOINT-STOCK COMPANIES, IS WILLING TO UNDERTAKE TO OPEN THE BOOKS OF ANY NEW UNDERTAKING, or TO ARRANGE TO KEEP THE BOOKS OF COMPANIES ALREADY ESTABLISHED, at moderate remuneration.—Address, "M. E.," care of Mr. Robert Clarke, printer, stationer, &c., 51, Threadneedle-street, E.C.

TO INVENTORS AND PATENTEES.—A GENTLEMAN having an extensive connection with manufacturers, merchants, and others, would be GLAD to UNDERTAKE THE SALE OF INVENTIONS OR PATENTED ARTICLES, on commission.—Apply to Mr. Rawle, patent office, 14, Clare-street, Bristol. N.B.—Continental and foreign agencies solicited.

DEVON GREAT MARIA MINING COMPANY.—A LARGE INTEREST in these MINES TO BE SOLD, at a HEAVY DISCOUNT.—Full particulars on application to Mr. Clarke, 39, Noel-street, Islington, N.E.

EAST SETON.—SHARES WANTED in this mine. State number and lowest price.—Address, "A. B." No. 126, Albany-street, Regent-park, N.W.

M. R. E. GOMPERS, MINING OFFICES, 3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C. BUSINESS TRANSACTED IN BRITISH AND FOREIGN STOCKS AND SHARES. Terms, 1*s.* percent. Bankers: London and Westminster Bank.

M. R. WALTER TREGELLAS, 3, CROWN COURT, THREADNEEDLE STREET, LONDON

WATSON AND CUELL'S MINING CIRCULAR.

WATSON AND CUELL,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Messrs. WATSON and CUELL having made arrangements for transferring their weekly Circular, which has had so large a circulation during the past ten years, to the columns of the *Mining Journal*, their special reports and remarks upon Mines and Mining, and the state of the Share Market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. Watson, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium published in 1843 Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. Watson and Cuell have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share-dealing than there is at present; and, from the lengthened experience of Messrs. Watson and Cuell, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON and CUELL transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt, and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON and CUELL also inform their clients and the public, that they transact business in the public funds, railways, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON and CUELL are almost daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are enabled to supply shares in all the best mines at close market prices, free of all charges for commission.

WHEAL GRENVILLE.—Some time ago we called attention to the importance of the new shaft at this mine, as it was in the heart of the tin ground, and would, therefore, when complete, facilitate the working of the mine, and increase the returns. There is a good lode for tin, the agent informs us, now in the shaft, and he also calculates there is a lot of high tin ground above the 66, and into which levels will now be driven. The 110 fathom level, west from engine-shaft, continues worth 25*l.* per fm.; and, what is also very important, a large lode is coming in at the 110 east, already good work for tin, and not yet cut through. Above this level east there is a rise worth 14*l.* per fm. The 120 west looks like a course of ore coming in. The different points of operation in the mine are worth in the aggregate nearly 200*l.* per fm.; and the sale this month, notwithstanding the weather and season, will be the largest ever made by the mine, while next month's sale, we hope and expect, will leave profit. We have thus enumerated a few plain facts in connection with the mine as given to us—facts we do not ask anyone to take for granted on our *ipso dictu*; but we say, send any independent agent to the mine to confirm them or otherwise. If confirmed, as we have no doubt they would be, then we say the shares which a short time since were at 11*l.* each are now absurdly too low in price. And another fact must not be lost sight of; the lode in East Wheal Grenville, upon which those shares have risen to the present price, is dipping towards Wheal Grenville, and the 65 fm. level end is near to the boundary. In reference to this part of the mine, the manager of Great Wheal Vor, who inspected it on the 20th, says—"They have sunk a boundary shaft to the 20 fm. level, but at present it is suspended, on account of water. I would recommend that this shaft be sunk with all speed, as it is going down in an important place; the productive ends in East Grenville approaching in close proximity to this shaft, the 75 west in East Grenville being within 5*fms.*, the 65 within 7*fms.*, and the 55 within about 22*fms.*"

TRUSCOTT MINE.—The majority of this mine has been purchased by Mr. Wescob, partner of Frank Mills, who is to have the management of it. A shaft has been sunk 14 fathoms from surface, and several tons of copper ore broken from it. The lode can also be intersected 25 fms. deep by a cross-cut in the hill; and to accomplish this object, we understand there is capital enough in hand. The mine is in 5000 shares. Mr. Wescob writes us—"This is the best sett I ever saw in my life. I thought nothing would tempt me to take up a new mine until I saw this." Capt. Rowe, of Wheal Seton, reports—"I do not hesitate to say it is one of the most promising young mines I have ever met with." Several other reports of a similar character have been made; and as the only shares to be disposed of have been placed in our hands, to offer chiefly to the Frank Mills shareholders, at 1*l.* 10*s.* per share, we shall publish the reports altogether in a few days. In the meantime, if any of our readers wish to secure a few shares at the issued price (1*l.* 10*s.*), they had better apply at once, as after a certain number have been issued, shares will not be had even at double the price.

OLD GUNNISLAKE.—We stated, a fortnight ago, that, owing to the few applications for shares on the part of the general public, and other circumstances to which we alluded, the money subscribed would be returned in full to the applicants. This has now been done, though all, we understand, had the option given them of joining the directors, who have made arrangements to work the mine, and have taken up every share among themselves.

CREDITORS' LACHES.—A creditor who has neglected to come in at the proper time and prove his debt in an administration suit must take the consequences of his laches, and cannot be allowed to disturb the dividend of the other creditors after an order has been made directing payment thereof. Vice-Chancellor Kindersley thus held in the case of *Bull v. Falconer*.

FAUDULENT DEEDS AS AFFECTING CREDITORS.—The Lord Chancellor has affirmed the decision of Vice-Chancellor Stuart, in the case of *Spratt v. Willows*, declaring a deed of voluntary settlement fraudulent and void as against the plaintiff, a creditor of the settler. His lordship said there was some inconsistency in the decided cases on the subject of conveyances in fraud of creditors, but he thought the following conclusions were well founded. If the debt of the creditor, by whom the voluntary settlement was impeached, existed at the date of the settlement, and it was shown that the remedy of the creditor was defeated or delayed by the existence of the settlement, it was immaterial whether the debtor was or was not solvent after making the settlement. But if a voluntary settlement or deed of gift were impeached by subsequent creditors whose debts had not been contracted at the date of the settlement, then it was necessary to show either that the settler made the settlement with express intent "to delay, hinder, or defraud creditors," or that after the settlement the settler had no sufficient means or reasonable expectation of being able to pay his then existing debts—that is to say, was reduced to a state of insolvency, in which case the law would infer that the settlement was made with intent to delay, hinder, or defraud creditors, and was, therefore, fraudulent and void.

FRAUDULENT PREFERENCE.—A payment to a particular creditor with out a demand made by a debtor, on the eve of bankruptcy, out of a fund which would otherwise be distributable among his creditors, is not necessarily a fraudulent preference; for though such a payment would prima facie raise the presumption that the debtor fraudulently intended to defeat the Bankrupt Law, from which fraudulent intention alone arises the invalidity of the payment, yet that presumption may be rebutted by other circumstances. The question turns entirely on the motive of the debtor in making such payment. The Court of Queen's Bench thus decided, in the case of *Bills v. Smith*, which was an action by the assignees of a bankrupt to recover a sum alleged to be paid by him by way of fraudulent preference. The Court said that in such a case the Jury should be told that unless they came to the conclusion that the debtor had the intention of defeating the law, and preventing the due distribution of his assets, by preferring one creditor at the expense of the rest, the transaction will stand good in law.

CREDITORS A BROAD.—If a creditor of an insolvent be abroad at the time of the debt accruing and of the execution and registration of a composition deed, the composition must be tendered to him, although he is abroad at the time, for payment of it. If, on the contrary, a contract to pay be made in England with a party in England, who afterwards goes abroad, the person liable is not bound to follow him. The Court of Common Pleas thus decided, in the case of *Fessand v. Magalac*.

MINERAL WEALTH OF IRELAND.—A cargo of lead ore from the Tassan Mines, near Castlediney, was shipped within the last few days at Dundalk for Chester River, valued at nearly 100*l.* This mine belongs to the Great Northern Mining Company of Ireland. A cargo from the same locality will be shipped next week from the Hope Silver-Lead Mines. The Tassan and Hope Mines employ at least 400 men, at a high rate of wages.—*Mongolian Standard*.

VAL-SASSAM MINES COMPANY (LIMITED).

SWITZERLAND.

Capital £60,000, in 6000 shares of £10 each.

£1 per share to be paid on application, and £2 on allotment. No call to exceed £1, three months to elapse between each call, and not more than £5 per share to be called up, except by a vote of the shareholders in general meeting.

DIRECTORS.

Mr. VALENTINE BAVIER, banker, Coire, Switzerland.

Mr. JOHN BISHOFF (Messrs. Streckeisen, Bishoff, and Co., merchants), New Broad-street, London.

Mr. JOHN ORREY, Director of the Gomess Mining Company (Limited), Ashwick Hall, near Chippingham.

Mr. E. A. PONTIFEX, Director of the Cape Copper Mining Company (Limited), Shoe-lane, London.

Mr. F. G. SCHOCHE, merchant, Zurich, Switzerland.

Mr. JOHN TAYLOR, 6, Queen-street-place, London.

Mr. RICHARD TAYLOR, 6, Queen-street-place, London.

BANKERS.

Messrs. Barnetts, Horres, Hanbury, and Lloyd, London.

Messrs. S. and J. B. Bavier, Coire, Switzerland.

BROKERS.

Messrs. Walker and Lunaden, 25, Austinfriars, London, E.C.

SOLICITORS.

Messrs. Kimber and Ellis, Lancaster-place, and Gresham House, London.

MANAGERS.

Messrs. John Taylor and Sons, 6, Queen-street-place, London.

SECRETARY.

Mr. W. G. Williams.

OFFICE, 6, QUEEN STREET PLACE, LONDON, E.C.

The object of this company is to work mines of lead and copper ores, rich in silver, within the district of Val-Sassam, in the Canton Grisons, Switzerland.

The right of working all mines, with the exception of coal and iron, within the entire district, extending from Thusis, on the well-known "Via Mala," 20 miles in the direction of the Splügen, and being about 12 miles wide, is secured by a concession for a term of 50 years, granted by the "Landshut" in 1862.

The conditions of this grant are extremely favourable, as no rent or royalty is to be paid on the produce of the mines, and the only payments with which the concessionaries are chargeable are certain small fines, payable at every tenth year of the term.

Numerous mineral veins are known to exist within this vast area of 240 square miles, some of which were worked by the Romans, and, at a later date, became the source of the fortunes of several wealthy Italian families.

The concessionaries, with the assistance of some Swiss capitalists, have, during the two years which have elapsed since the grant was made, executed a great deal of work in opening and clearing the ancient galleries and other excavations of the two principal mines—viz., Orsera, a mine of argenterous copper, and Tospino, a lead mine, the ores of which are extraordinarily rich in silver, and have likewise done such exploratory works by new openings as have proved that the mineral veins are numerous, and that they continue for a length of upwards two miles.

These workings have been inspected by agents of Messrs. John Taylor and Sons; they have reported that—

In the mine of Orsera four principal lodes were worked very extensively by means of adit levels, above which the greater part of the lodes have been extracted; some arches and pillars, however, remain, consisting of portions of the lodes, and these contain purple and grey copper ore, both extremely rich in silver. Considerable progress has been made in a new level, from a point lower down the mountain side, which will intersect all the lodes below the deepest of the ancient workings, and it is confidently expected that large quantities of ore will be won by this operation.

In the mine of Tospino the ancient workings are less extensive, but it contains a group of lodes so numerous and so powerful as to afford a field for most important operations. These lodes are more or less productive wherever they have been laid open, and at some points yield as much as 2 tons of ore per fm., even at the surface.

Assays made by the agents of Messrs. John Taylor and Sons prove that the ores of Orsera contained in their crude state, as broken from the lodes, from 4*l.* to 8*l.* per cent. of copper, and from 80 ozs. to 160 ozs. of silver per ton, and that, by washing, these ores might be so concentrated as to yield from 35 to 45 per cent. of copper, and from 250 to 300 ozs. of silver per ton, which would be worth from £30 to £100 per ton. And the ores of Tospino, in their crude state, yielded on the average of a great number of samples 35*l.* per cent. of lead and 88 ozs. of silver per ton of ore, which would be worth £17 10*s.* per ton, and by washing these might be enriched to 70 or 75*l.* per cent. of lead and 100 to 110 ozs. of silver per ton, which would be worth upwards of £35 per ton.

Both of these mines are so situated in the sides of the mountains that they may be worked by means of adit levels to any required depth, and are thus exempt from the ordinary expense of drainage and of hauling, which, in the generality of mines, forms so heavy an item in the working costs.

Abundant streams of water provide ample power for all such machinery as will be requisite for dressing the ores, and the buildings destined to these purposes have been erected on an excellent site.

Every facility for economical working is afforded by the district of Val-Sassam, timber and all other requisite materials being abundant and cheap, and the people being able and industrious labourers.

A contract has been entered into for the purchase of the concession with all the rights appertaining thereto, and the whole of the buildings, plant, machinery, tools, and apparatus, as well as the extensive openings and works of the two rich mines described in the reports, including the stock of ore already extracted, for the sum of £18,000, payable by three instalments.

The mines have been worked since the first of October, 1864, for the account of the company, and from the latest advices it is known that considerable quantities of valuable ore are being extracted.

It is intended that the first call of £1 per share shall be made three months after the date of the allotment of the shares, and the second call of £1 per share six months after allotment, and it is calculated that the amount of capital thus raised will be sufficient to place the mines already opened in full and profitable working; and no further call will be made except by a vote of a general meeting of shareholders.

The directors have already received, through the bankers of the company in Switzerland, applications for a large number of shares; but they have reserved the right of allotting not less than two-thirds of the whole number in this country.

Copies of the reports of Messrs. John Taylor and Sons, and their agents, Messrs. R. Heneage Taylor and R. W. Rickard; of Mr. J. Dickson Ikin, civil engineer; of Mr. de Baglioni, Ingénieur des Mines, the local agent of the company. Forms of application for shares, and every information may be obtained from the brokers, solicitors, and managers, at the office of the company.

PROSPECTUS OF THE EAST MAES-Y-SAFN LEAD MINING COMPANY (LIMITED), MOLD, NORTH WALES.

Incorporated under the Companies Act of 1862, and Table A of the Act is adopted as the Articles of Association for the government of the company.

Capital £50,000, in 5000 shares of £10 each.

Deposit 10*s.* per share on application, and £1 on allotment.

Each future call not to exceed £1 per share, and to be subject to one month's notice.

It is not expected that more than £5 per share will have to be called up.

If no allotment be made, the deposits will be returned in full.

DIRECTORS.

CHARLES B. TREVOR ROPER, Esq., Plas Teg, near Mold—CHAIRMAN.

ROBERT A. DAGG, Esq., Chetwynd House, Oxton, Birkenhead.

THOMAS HAMNER WYNNE, Esq., Nercwys Hall, near Mold.

WILLIAM TREVOR ROPER, Esq., the Temple, Liverpool.

FRANK P. MATTHEWS, Esq., Llwyn Offa, Mold.

ROBERT WILLIAMS, Esq., Ty Uchaf, Mold.

THOMAS WARDEN, Esq., Osborn House, Edgbaston, Birmingham.

(With power to add to their number.)

BANKERS—Messrs. Dixons and Company, Eastgate-street, Chester.

National and Provincial Bank, Mold.

SOLICITOR—George E. Trevor Roper, Esq., Mold.

BROKER—George Edwin Taunton, Esq., York-buildings, Liverpool.

SECRETARY—Mr. J. Cadocott.

OFFICE, 19, PEPPER STREET, CHESTER.

This company has been formed for the development of a very extensive tract of mineral ground, comprising five distinct sets, —viz., Brongwyn, Pwll-y-wheel, Fron, Norquias, and Bryngwyn, which are considered by engineers and practical miners to form one of the richest pieces of mineral ground in North Wales, as will be seen in their reports. They are situated on the Mold mountains, two miles south-west from Mold, are surrounded by dividend-paying mines, and are held by fair and equitable leases for long terms, at 1-12th royalties, from the lords of Mold and other owners; the surface area comprises 400 acres, or thereabouts. Several fair-sized shafts, from 60 to 130 yards deep, have been sunk at various points on them, which will be available for future operations, and from some of which ore can soon be raised; indeed, the shaft marked A on the map, on the east or lower portion of the Brongwyn set, was sunk 90 yards to a fine run of ore, which was followed down-hill to the Pwll-y-wheel boundary under the road, where 176 tons of ore were raised out of a very small space, marked black on the map, and the vein, 13 ft. wide, containing a solid rib of ore 2 ft. thick, continued its course down-hill below the water-level.

Pwll-y-wheel engine-shaft was sunk 121 yards deep, and a cross-cut was driven south 80 yards, at the 120 yard level (intersecting in its course three other productive runs of ore), to cut this vein in the Pwll-y-wheel set; this was done, and the ore sunk for 13 yards, but the water issuing from it was too much for the existing machinery, and the mine was stopped want of means. A new shaft, marked B on the map, 9 ft. by 6 ft., has been sunk down 80 yards dry. It is proposed to erect on this shaft a new 70-in. Cornish engine for pumping, to place it in 24-in. pitwork, and to provide all appliances necessary to drain the ground effectively to a sufficient depth to cut and work the run of ore above alluded to, and such others as may be below it, and within the power of the engine. It is estimated that all necessary operations (including an additional plant on the deep of the property, when the fit place for such shall have been determined by explorations from shaft B) may be carried out for £25,000, and that ore may be raised in twelve months from sinking.

The several leases of these valuable sets, together with the washing-floors, buildings, plant, and machinery thereon, have been transferred to the company free of every other preliminary expense, by the vendors, for £3000 in cash and 500 paid-up shares of the company (such shares not to be transferable until all the shares have been allotted), and a further sum of £2000 whenever the mine is capable of paying a dividend of 20 per cent. on the paid-up capital. These terms are considered very reasonable, bearing in mind the great worth of the property, and the expense and trouble incurred by the vendors in purchasing the interests of old companies, and obtaining new leases.

These mines have been inspected and reported on by practical mining engineers and mining authorities of high position and respectability, some of whom having seen the ore proved at Brongwyn and Pwll-y-wheel when last at work, speak positively to its existence in very large quantities, and particular attention is requested to their reports, and the map and section accompanying them. Among the printed reports are those of Mr. T. L. Cotttingham, mining engineer, Mold; Mr. Robert Williams, agent to the lords of Mold; Mr. Ahabalom Francis, Meadow-house, Holywell; Capt. John Pryor, mining engineer, Mold; and Capt. Francis Evans, Bryngwyn Mines, Holywell.

A considerable number of shares are already subscribed for.

Prospects,

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IRON.—Inquiries (Llanrhaidr) can find the particulars he requires in our Metal Market information.
Received.—“C. W. B.” (yes)—“Miner” (St. Michael’s Mount)—“R. F. J. L.” (Car-diff)—“A Discontented Shareholder”—“None.”

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MARCH 25, 1865.

The Strike, and consequent Lock-out, unfortunately still continue, to the serious loss both of masters and men, and to the probable ultimate gain of the foreign producer. The cessation of the supply of finished iron has naturally had the effect of causing the few manufacturers who have not yet closed their works to be more busy, but it is to be feared that, notwithstanding the fact that the reduction of the make, by the strike and lock-out combined, has already been equivalent to putting all the works in the kingdom on two-thirds time for three months, no permanent improvement can at present be reasonably expected. That iron must be had is evident, for public works cannot be delayed either to suit the convenience of the manufacturer or of his workmen, but the advantage is with those on the Continent who can tender at lower rates, or guarantee a more certain supply. The workmen can urge, no doubt, that if they continue to resist for a few weeks, they will, by bringing supply and demand more nearly equal, enable the masters to grant them the concession they ask for; and such a termination of the dispute might gratify the delegates by affording them a pretext for congratulating the men upon their victory over the masters, but the men would, probably, have much the feelings of the great general who, at the end of the battle, exclaimed—“Thank God we are not defeated; but one more such victory would ruin us.” Both masters and workmen should consider that if, by the long continuance of the struggle, we do not lose the trade, we may introduce a new element of competition which will hereafter seriously interfere with it.

With regard to the substitution of mechanical for manual puddling, we understand that Mr. MENELAUS’s experiments on the large scale at Dowlais have been so far satisfactory, and as he has during the past week patented some further improvements in machinery for working puddled balls or blooms of iron and steel, it may be presumed that he has succeeded in discovering the defects, and providing a remedy. Whether machine-puddled iron will ever be able to compete with hand-puddled, of course, remains to be proved; but that a very fair quality of finished iron can be produced without the puddler, now appears to be beyond question. Mr. MENELAUS will read a paper before the Institute of Mechanical Engineers, at Birmingham, in the course of the coming month, and no doubt sufficient will then be made known to enable every practical man to judge of the value of the process. We are aware that puddling-machinery has been in operation at the Parkgate Ironworks, Rotherham; it was, however, only a temporary trial, made some months since, with permission, by persons not connected with the company, and came to nothing; but we understand that the failure was not so complete as to prevent further efforts when opportunity offers.

Respecting the introduction of foreign iron, Messrs. PHILLIPS, of the Coal Exchange, write that “It may be of interest to such consumers of iron as may be presently embarrassed by the stoppage of their usual supplies to know that iron of excellent quality is now being daily shipped from various continental sources, in many cases from 10 to 15 per cent. cheaper than Staffordshire rates.” The accuracy of the statement no one can for a moment doubt, but the question is whether the quality, excellent though it may be, is at all equal to the Staffordshire iron with which Messrs. PHILLIPS compare it. It may be added, also, that iron ore, as well as iron, is being imported, for it appears that a contract has been entered into by certain South Wales ironmasters for the supply of 18,000 tons per annum from some mines near Cherbourg.

As an evidence of the desire of the masters to afford the men every facility for terminating the lock-out, if they desire it, a letter from Mr. W. S. RODEN, the Chairman of the North Staffordshire Committee of Ironmasters, may be referred to. Alluding to the statement made by Mr. BAKER, a North Staffordshire delegate, at the meeting of the London Trades’ Delegates, on Wednesday evening—“If, however, the masters would consent to open their works to the men of South Staffordshire, then the men of North Staffordshire were willing to resume their work, and leave the question of wages to be settled by arbitration.” Mr. RODEN observes that the wide-spread distress caused by this unhappy dispute is regretted by no body of men more sincerely than by the ironmasters themselves, and, assuming that the delegate spoke with authority from the puddlers, he will, upon receiving an official intimation to that effect, bring the proposal before the ironmasters, and use his influence to endeavour to have it accepted. As there can be no doubt that both masters and men are equally alive to the desirability, for their common welfare, that the trade should not be permanently interfered with, we regard the step here taken as that which will probably lead to the settlement of the present dispute, and at the same time direct attention to the means which will be applicable to the settlement of future disagreements of a similar nature. It can matter nothing, either to the masters or the men, whether there is union on both sides or no union on either, as in either case both parties are enabled to secure that satisfaction of their claims to which each is equally entitled.

The present deplorable struggle between the ironmasters and the iron-workers affords the best possible opportunity to the foreign emigration agent to use his endeavours to persuade the workmen to emigrate; and when such statements as those made in the letter of Mr. THOMAS GEMMELL, advertised in the MINING JOURNAL of Nov. 19, are put forth, there certainly would appear to be a wide opening for the working man in the United States. It will be well, however, for all to carefully consider whether there are any grounds for the glowing promises made; and as the truthfulness of Mr. GEMMELL’s statement is actually denied by men from this country who are employed on the mines referred to, it is not improbable that the position of the American ironworker is as far overstated as that of the American collier has been in Mr. GEMMELL’s letter. It will be recollect that he stated that in Maryland and West Virginia colliers’ labour was very scarce; that labour was at a premium; that 12s. per day could be earned; that the truck system was unknown, and so on; but, inasmuch as it now appears that these promises could not be borne out, it is not probable that the ironworkers who emigrate may find themselves equally deluded, and discover, when too late, that the result of their emigration has been the reverse of improving their own position?

The fallacy of Mr. GEMMELL’s statements in the Journal was at once observed by those at the mines in the district of which he wrote, and the deputy at the Franklin Mines, Mr. BIRDSON, has written a very careful letter to the *Miner and American Workman’s Advocate* (with a request that it should be copied into the MINING JOURNAL), to refute the assertions; and, as it is endorsed by men who have emigrated from Great Britain, and are well known here, it may be well to publish their view of the case. The signatures are GEORGE SMITH, PETER GRANT, JAMES MALY, and EDWARD LOUKE, from the North of England; EDWARD WILSON, from Staffordshire; WILLIAM HART, from Lancashire; JOHN SCOTT and JOHN SMITH, from Scotland; and JOHN REESE, from Wales. The good faith of Mr. GEMMELL’s appeal seems to be more than questioned by the men, for the letter says—

“If Mr. GEMMELL performs all he promised there, he will do much better by emigrants than he ever did by his old hands. But let us see what is in the letter: He says if he had men enough he could get out and sell 400 tons more coal every day than he does at present. On seeing this statement we immediately sent six or eight out of the 30 or 40 men which we could almost any time spare him, to engage work for themselves and about thirty others. The pit boss at the Hampshire mine, seemed to be angry at being asked for work, and replied, that if twenty of the men there now were to leave there would not be a bit too much work for the balance. Mr. GEMMELL’s agent, at Llanwellyn Mine, whose name is EDWARD BAXTER, said that he did not believe Mr. GEMMELL intended to bring out any men, for that he had tried that game once before, and that when the men came out they out-Yankeeed him, and shamed him. I went myself to Midland, to look for work, and meeting some of the men, they told me they had made \$10 each that week. There are 25 men to dig 250 tons per week—that is ten tons each. This does not look much like wanting men so bad as Mr. GEMMELL said he did! He told the men of England that the Track system was not known here. Well, I do not know that it is, except at his Hampshire mine, where there is a store kept, near the Baltimore and Ohio Railroad depot, but whether by Mr. GEMMELL or his superintendent I know not; his men, however, know that they must deal in it, and pay \$16 per barrel for flour, which they can obtain elsewhere for \$12.50 to \$13, and \$2.50 per gallon for lard oil, which they can procure elsewhere for from \$2 to \$2.50. Any miner who takes his month’s provisions at this store, pays twenty-five per cent. more than in any other store in the

neighbouring towns. It is true that the men may not be absolutely ordered to buy in that store, but if the miner buys his provisions elsewhere he must bring his load to the coal cars, at the foot of the plane, from whence it must be drawn up an incline of a mile and a half to an elevation in the mountain 2000 feet high, to which the approach for wagons, by the road, is so steep as to be almost impassable. If their provisions are bought in the store of the depot, they can be taken up on the cars, but not otherwise, unless the woman can conceal them under their shawls, or the men under their jackets. So much for what he says about the Track system! Mr. GEMMELL spoke the truth when he said the country was hilly, as you will readily suppose when you know that in a distance of a mile and a half the altitude varies 2000 feet; he also spoke the truth when he said he had some good houses in Midland.”

The endeavour to deter emigration is especially disclaimed—the sole object of the letter being to publish the truth of the case; they wish the emigrant to be wary lest he be entrapped. If the emigrant comes to the country on the recommendation of his friends or relatives, who are already there, they think he would be much more safe, for the hearty welcome which would be given by the hand of friendship would be much more reliable than that given by interested speculating capitalists. As those who have emigrated from this country to the colliery districts of America have discovered how easy it is to be deluded by speculating capitalists and entrapping emigration agents, so ultimately, we opine, will the operative iron-workers discover how fallacious it is to suppose that wages for any class of labour can be maintained at a fixed rate regardless of the state of the market; and it is to be hoped that the time is not far distant when, by caring to think for themselves, they will be enabled to avoid the delusions of those of their own body who so injudiciously direct their movements.

MANUFACTURE OF IRON—IMPORTANT IMPROVEMENTS.

PRODUCTION OF CABLE IRON BY BOILING.

The remark that iron manufacture is in its infancy has often been repeated of late, and from the many revelations almost daily made, we have cogent reasons for believing in the correctness of the assertion. The improvements of recent dates, however, consist of mechanical applications which are attended with considerable expense, entailing the alteration of existing furnaces, and other appliances for the reduction of the raw materials into a marketable state, while, in some instances, no less an amount of outlay than the construction of entirely new apparatus is involved, thus necessitating the expenditure of a very large amount of capital.

The improvement to which we may now direct attention is of a chemical nature, to which our own attention has been drawn by the registration of an invention by Mr. R. T. CRAWSHAY, of Cyfarthfa Ironworks, Merthyr Tydfil, ironmaster, and Mr. J. A. LEWIS, of Cyfarthfa Ironworks, agent, for “Improvements in the manufacture of puddled bar, or No. 1 iron, and every description of malleable iron.” It is stated that the objects sought by the invention are the production of No. 1, or puddled bar-iron, direct from the pig, without recourse to the “finery” process, giving to the iron in the pudding (or rather, boiling), and all subsequent processes, a degree of tension and ductility fully equal, if not superior, to that obtained by the old and more expensive method of introducing the iron into the puddling-furnace partly in the state of pig-iron and partly in the state of finers’ metal, to more thoroughly revive the iron, and thus obtain a better yield, and to facilitate the separation of foreign matters from it, thus increasing the amount of work to be done, or the quantity of No. 1 bar, and any class of finished iron to be produced within a given time.

There can be no doubt that the best process for the manufacture of iron is that which is most efficient and economical, and leaves the particles of the metallic mass in the condition most favourable to the operation of the laws of cohesion. It is equally above dispute that the processes hitherto practised have attained this end only partially, and are dependent on the direct action of heat and atmospheric air. The liquefaction in the high temperature of the boiling furnace of the mass operated on prevents, nearly altogether, the action of the elements of the air, the surface only being exposed to them, except when agitated by the puddler’s bar, or other mechanical means. Here, therefore, is a defect in one essential point professedly sought in the operation; and were the subjection of the whole mass to the action of air attained, simple atmospheric action would be ineffectual, as the impurities combined with the iron are not separable by this means alone. The chemical affinity between them and the iron requires to be overcome by the presence of other elements for which they have a greater affinity, and which would not combine with the iron. It has, therefore, we presume, occurred to the patentees of this invention by the introduction into the boiling (or puddling) furnaces, at the proper stage, and in proper quantities, of any material or materials fulfilling the conditions implied as necessary, the purification and, consequently, improvement of the quality of the iron will be accomplished. Just to show how far this end is accomplished by the present invention, we will quote a few of the chemical changes which the patentees state are brought about by the introduction into the furnace as described of the ingredients used—*sulphate of iron and oxide of lead*. “1. The conversion of the carbon of the mass into sulphur of carbon by the decomposition of the sulphate and its removal by sublimation.—2. The separation of the siliceous and argillaceous substances by the lead of the oxide forming by their union a matrix from which the iron readily precipitates.—3. A rapid elevation of the temperature of the mass operated on by the evolution of oxygen from the acid of the sulphate of iron and the oxide of lead producing suddenly a greater liquefaction, which facilitates the separation of foreign matters, by the laws of gravitation of substances of different specific gravities.”

The advantages of the present invention are numerous and important. By its adoption the “finery” process is swept entirely away, as by the use of these ingredients we find that iron not only of ordinary quality, but of the highest qualities of tension and ductility, is procurable; and we have seen a sample of No. 2 bar, 1 inch square, manufactured by this means, which had been tested at the works of extensive chain makers of high standing, and their certificate of the strain which this iron held states—“It held at 28 and broke at 29.” This contrasts extremely favourably with the average of the best cable iron, which, we believe, is about 25 tons to the square inch. This same iron, beaten out under the blacksmiths’ hammer, was punched and twisted without any perceptible flaw. The pig-iron used for the production of this iron, we are informed, was of inferior quality, proving that, after all, the main point to be aimed at in the manufacture of good iron is the separation of foreign and deleterious matters from the metal. It, therefore, follows that another advantage of this invention is that no iron, however inferior in quality, once brought under its influence, is any longer unmanageable or ineligible, and consequently a great economy is effected in the burthen of blast-tunnels, which would be of incalculable benefit, not only to ironmasters, but to mankind in general. The extreme ductility given to the iron in all processes after the application of this invention effects a great saving also in “crop ends” of bars and rails, diminishing, as it does, the quantity of bad edges. There will also be considerable economy effected in fuel, as by turning out a greater amount of work within any given time the quantity of coal to the ton of iron must of necessity be lessened. As we shall have something more to say on this subject shortly, we will not go into further details, but will content ourselves with stating that we are assured that the total cost of this application will not exceed 6d. per ton of No. 1 iron produced, as the reagents exercised are so powerful that their effect is maintained throughout any subsequent processes it may be necessary for the iron to undergo, and, further, that all the arguments brought forward in its favour are based on experiments of sufficient magnitude to warrant their correctness in practice.

The names of the gentlemen appearing as the patentees of this invention are a sufficient guarantee for the carrying out of its benefits. Mr. CRAWSHAY is, as every one concerned in the manufacture of iron is aware, of the highest standing as an ironmaster, representing great wealth and ability, while Mr. LEWIS is an agent at Mr. CRAWSHAY’s extensive works, and combines with theoretical knowledge, the fruit of many years’ application, sound practical experience in the manufacture of iron in all its stages.

GAS IN PARIS.—The annual meeting of the great Parisian Company for Lighting and Heating by Gas has been held. The dividend on the shares for 1864 was fixed at no less than 42. 4s., or 21 per cent.! The business of the company is stated to be immensely extending, and more than half a million of additional capital is to be raised by obligations, in order to put the works and canalisation *en rapport* with the increased demand for gas

TRADE WITH MEXICO.—The exports of coal, cinders, and culm to Mexico amounted, in 1859, to 8111 tons; in 1860, to 1965 tons; in 1861, to 4566 tons; in 1862, to 12,776 tons; and in 1863, to 8412 tons. The exports of wrought and unwrought iron to Mexico experienced a great expansion in 1863, having amounted in that year to 8868 tons, against 695 tons in 1862, 721 tons in 1861, 887 tons in 1860, and 271 tons in 1859. The value of the steam-engines exported to Mexico in 1863 was 7952, against 2072 in 1862, and 582 in 1861. The value of other machinery sent in the same direction in 1863 was 15,4062, against 81642, in 1862, 73082.

in 1861, 90492, in 1860, and 39122, in 1859. The value of the tin-plates exported in 1863 was 50512, against 42242, in 1862, 25252, in 1861, 22782, in 1860, and 38752, in 1859.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MARCH 23.—The Lock-out continues to absorb the attention of the trade, and it threatens, if maintained, to absorb all the means, the health and strength, nay, the very lives of the population employed in the Iron Trade, and the many branches depending upon; whilst into the same vortex is flowing the capital of the masters. Combinations to maintain or advance the rate of wages ought to be of great advantage to balance the awful loss and injury they entail; and the only hopeful feature about the present struggle is that it exhibits on such a terrible scale the extent to which, by hostile combinations, masters and men may injure each other, and the public in general, that it may be hoped that on both sides there will be a greater readiness to listen to any proposal which appears calculated to prevent these terrible struggles, and to render both men and masters exceedingly reluctant to engage in such mutually destructive contests.

The new facts are not numerous, but they are important. On Tuesday, the Earl of Lichfield, Lord Lieutenant of Staffordshire, presided at a meeting at Hanley, in the Staffordshire Potteries, for the purpose of celebrating the opening of a Working Men’s Club. In the course of his address the noble lord referred to the strike and lock-out, the struggle taking the former aspect in that district, and he said:—

He had, and they had all, heard it said that the origin of the strike in that part of the country was owing to special circumstances which did not exist in other parts of the country, and that the men who struck, not being willing to accept the wages which were offered in other districts, did so because they were peculiarly situated. He was not going to express any opinion as to whether they were right or wrong, but he must tell them that he for one, and as one of the impartial public, had not been satisfied what these special circumstances were. With regard to these strikes, the most effectual solution of the difficulty, which might with advantage have been introduced, was some plan of arbitration, which could have been acted upon by mutual consent; and another was a good understanding between employer and employee. (Applause.) If at the outset of this strike it could have been shown by those who employed them, through such an arbitration as he should like to see established, that their circumstances were special, and that they had a claim to somewhat higher wages than were being given in other parts of the country, he was quite sure that those employers—if it had been brought before them in that way, so clearly proved as it must be when a case of this sort was brought to arbitration—would, from what he knew of them, have been found ready, and willing, and anxious to act upon the result of a system, which he was quite sure they must agree with, and which, in his view, was by far the most satisfactory manner in which they could be asked to deal with disputes with those whom they employed. His lordship also pointed out the apparent anomaly of the men in that district, whilst they said their circumstances were peculiar, acting in co-operation with Unions at a distance, and then acting in opposition to those Unions, and said that on all these points the public required information.

To-day the Committee of the Ironmasters’ Association for the North Staffordshire district resolved to invite his lordship to preside at a meeting at Stafford, at which representatives of the North Staffordshire men and masters should be invited to meet those of the men and masters of South Staffordshire; and that the North Staffordshire men should be requested to state what are the peculiar circumstances which, in their opinion, justify them for demanding higher rates of payment than those given to puddlers in other districts. There can be little doubt that Lord Lichfield will accede to the request, and that the public will have an opportunity of hearing what grounds the North Staffordshire men have, or think they have, for their present course, which is entailing such widespread misery.

The effect of the Trades’ Union meeting, in London, last week, has proved as prejudicial as was feared. It led the representatives of the Brierley Hill Executive to abandon the policy to which they were pledged, of condemning the North Staffordshire men for striking against the reduction, and thus justified the previous doubts entertained of their sincerity in so condemning it; and they were induced to abstain from taking part in the meeting at York, which was called by the men and masters in the Northern district, with a view to an amicable conference, and thus they closed one of the most promising openings for reconciliation. The meeting in London this week was somewhat more moderate, and there are signs, on both sides, of a disposition to accept a conciliatory course.

There is reason to think that the masters do not, and never have, intended to protract the lock-out *ad infinitum*, in case the North Staffordshire men should prove obstinate. It is stated though, that the decision to close all the works would probably bring the dispute to a close speedily; but that, if it did not, the masters had in store a weapon in the use of which they would be far more powerful than the men. This was suggested in this letter last week, though the writer was not then aware that it was regarded by the masters as the policy on which they were prepared to fall back. It is understood that in case, from the great misery which the lock-out inflicts, it is desirable not to protract it, a general fund will be raised by the united ironmasters, for the purpose of compensating the North Staffordshire ironmasters for the loss which the strike occasions them, on the principle that as the latter are fighting the battle of the whole trade, the whole trade should unite in supporting them. Whether this help would take the form of supplying puddled bars, or of positive contributions, partially to recompense the proposers for the stoppage of their works, remains to be decided, but the masters, having this strong weapon in their quiver, feel the utmost confidence in their ultimate success in resisting the demands of the North Staffordshire men. It is to be hoped, however, that the necessity of resorting to these further measures may be obviated by an arrangement of the dispute.

At the weekly open-air meeting of the ironmasters at Wolverhampton, yesterday, there was again a numerous gathering of the men on the opposite side of the street; and demonstrations of a somewhat threatening nature were made by some of them. The town authorities have decided for the future to prevent these street gatherings.

It has been stated that Messrs. LLOYD, FOSTER, and CO., of Wednesbury, have decided to re-open their ironworks. This is, however, not true; a similar statement was made last week, and contradicted. The only case of importance in which a master has yielded has been that the works of Mr. THOMAS WELLS, of Moxley, near Bilston, had been started.

REPORT FROM MONMOUTH AND SOUTH WALES.

MARCH 23.—The Iron Trade is passing through a remarkable ordeal, and one that will leave its mark for, perhaps, ages to come. Of all the great iron-producing districts of the kingdom, Shropshire and South Wales are now the only two where the works are going on as usual. It was stated last week that prices showed a tendency to increased firmness, consequent upon the Lock-out; and this week I have to report a positive advance of 2s. 6d. to 5s. per ton for certain qualities. Many buyers are now obliged to resort to this district, who always before patronised Staffordshire and the North of England; and should the lock-out continue for any length of time, it is very probable that a large quantity of foreign iron will be imported. This deserves the serious consideration of both men and masters, for if foreign iron is once successfully introduced, it may lead to a complete revolution in the iron trade of Great Britain. The advices from the American market are unfavourable, and prices, it appears, have declined at New York. Had it not been for the lock-out, this would have had an important influence on matters in this district, and there is but little doubt that a reduction in quotations would be the result. Dulness still characterises the Tin-plate Trade, and prices have not improved. It is once more reported that the Treforest Tin-plate Works, the property of Mr. CRAWSHAY, which have been at a standstill for years, are about to be purchased by a joint-stock company. In the Coal Trade there is a considerable business doing, and the collieries are fairly employed. Quotations for both steam and house qualities are well maintained.

Reference was made in last week’s report to the opposition by the public bodies of Swansea to the proposed amalgamation of the Vale of Neath with the Great Western. It appears that Swansea is not to be alone in the opposition, for the colliery proprietors and other large freighters of Merthyr and Aberdare are also taking steps with the view of opposing the Union, without ample guarantees being provided for the public interests, and more especially that proper facilities should be afforded for the immense mineral traffic of the district. Once the amalgamation is carried out, the Great Western will have a complete monopoly of the trade to Briton Ferry, Neath, Swansea, and ports to the west, so that it is of the utmost importance that the vast power which will then be wielded by the company shall be placed under such strict regulations as will fully protect the interest of freighters.

The collieries of Messrs. VIVIEND and CO. are about to be transferred to a limited joint stock company. The members of the firm will take a large interest in the company, and will continue to give the benefit of their experience in the management. The arrangements for the transfers of the properties are already nearly completed, and it is expected that the whole of the capital will be privately subscribed.

The advantages which the east bank of the Usk,

Cherbourg, with 77 tons iron ore, for Waiters and Co.; the Jeune Baptiste, from Cherbourg, with 59 tons iron ore, for W. Crawshay; the Robert Bright, from Caldera, with 380 tons copper regulus, for H. Bath and Sons; the Mesonge, from Cherbourg, with 110 tons iron ore, for Waiters and Co.

REPORT FROM NORTHUMBERLAND AND DURHAM.

MARCH 23.—The Coal Trade here continues for some classes of coal good, the demand being brisk for house, steam, and gas coal. The demand for coking coal and furnace coal generally in Durham already begins to waver, consequent on the unfortunate Lock-out of the ironworkers. On the Wear most of the yearly bindings are over, many of them having taken place earlier than usual, and the remainder on the usual day, March 11. At all the collieries, scarcely with an exception, a proper understanding has prevailed, the demand for men being good, and score and tonnage prices have had an upward tendency, in many cases from 7 to 10 per cent. having been added to the price, without any solicitation on the part of the men. Looking at the state of matters in the county of Durham, both the employers and employed have every reason to congratulate themselves on the absence of any Union; it is quite evident that this state of things has conducted much to the interest of the men, as the natural competition for their services, caused by the demand for coal, has improved their prices in due course. This appears to be a natural and healthy state of things, and we hope it may long continue. In Northumberland both masters and men have a Union, and perform the one balances the other, and the effect is ready to render the whole system nugatory; but there appears to be more freedom for both parties when no combination exists.

With respect to the Iron Trade, the lock-out has come like a pestilence to mar its prospects, and spread famine and misery through the land. The origin of the dispute is, of course, well known to the public. With respect to the policy acted upon in carrying out the lock-out, various opinions are expressed here. The step is a bold and very serious one, and should not have been acted upon if any other mode of settling the business could be hit upon; such is the opinion very generally expressed. It is clear that the conduct of the men in ordering the strike in North Staffordshire was most unjust and impolitic to the last degree, for they must have foreseen that the masters would divine their policy. They have forced the masters to combine, in spite of many almost insuperable obstacles to that course; and the bitter fruits of their conduct will be felt not only by themselves, but by large numbers of people connected indirectly with such works. The conduct of the men also must destroy the Union, as they have repudiated the very principles they themselves brought into action. But it has been considered by many in the North that the policy of the men might have been thwarted by a more simple course, one, certainly, involving much less serious issues—that is, by simply assisting the North Staffordshire masters. This course, it is thought, might have proved quite as effective, and it contains certainly much less risk than the one taken.

With respect to the effect likely to be produced on the coal trade, it appears to be the opinion in well-informed quarters on Newcastle Quay, that should the lock-out continue any considerable time, at least one-half the collieries in Durham will be brought to a stand, as the works in this part of the district are many of them producing coking and furnace coal, &c. The effect, therefore, on the district will prove most ruinous. At all the great ironworks—Jarrow, Walker, Consett, &c.—much anxiety is felt by all classes of workmen and tradesmen as to the course likely to be taken, as already we have accounts of the lock-out being at an end partially in Staffordshire; it is hoped that some settlement will be arrived at shortly. What course of action may lead to the termination of the lock-out here it is impossible at present to point out; but there appears to be a disposition on the part of the men at some of the works to enter into an engagement to guarantee that they will render no assistance to the men of North Staffordshire, and it is possible that on some basis of this kind an agreement may be made. At any rate, such a result is most desirable.

REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

MARCH 23.—The great Lock-out in the Iron Trade is the all-absorbing topic in commercial circles, and calculations have been made to show that about 133,000, including the families of the men, are now without the means of subsistence, except what they can get from Union relief or voluntary charity, and that about 60,000 are in a similar position in the North of England. The struggle between capital and labour which this lock-out has given rise to has become a desperate trial; the men are determined not to yield except by sheer necessity, and the masters are equally resolved, but there is a feeling amongst the smaller capitalists indicating their great desire for an immediate settlement, and resumption of work, but the phase is so very comprehensive, and the united action of each party so great, that an immediate, or even early, settlement is very improbable. The lock-out has not affected these counties so much as was anticipated—indeed, it has made those firms which did not subscribe to the lock-out resolution extremely busy. In the majority of instances, too, the men submitted to the reduction proposed, and it is the general opinion of those not actually in the iron trade that the men who really did accede should not be visited with the penalty of a lock-out. The emigration agents are very active in inducing those men who are disposed to leave the country to do so, and special terms have been made for that purpose. There is a steady demand for manufactured iron, considering the crisis now existing, and the orders from the Continent are of a satisfactory character. The Steel Trade is not so brisk, partly arising from the questionable supply of iron during the lock-out, and partly from the absence of spring orders. The orders for rolling-stock have latterly been unusually large, and all the manufacturers are exceedingly busy in the completion of orders. The men in most of the ironworks now in operation have ceded from the Union.

The Coal Trade continues active, so far as regards the demand for the best steam coals, and those required for household purposes. The consumption for ironworks has been very materially lessened, and will continue to be so until the lock-out shall be terminated. The Hull and Grimsby export trade has been affected, owing to the late severe frosts having closed some of the northern ports. The enquiry for coke has increased, but the stocks already in hand are such as to make the extra demand almost unfeared. The Great Northern Company are adding to their rolling stock, and much attention is paid to the wants of the South Yorkshire coal owners. The Great Northern's hostility to the South Yorkshire has caused a strong feeling in favour of the Great Eastern line. The competition which would have been brought into South Yorkshire led the coalowners to believe they would get coals to London at a very cheap rate, by its competition with the Great Northern, but now hopes have been turned to disappointments.

Some dissatisfaction seems to exist with respect to the Parkgate Iron Company, a formal protest having been sent to the directors by Mr. F. Rummens, of Queen-square, Westminster, against the transaction of any business at the meeting called for to-day, and most especially against the fixing or apportioning of the remuneration to be paid to the directors, until the accounts have been made up and distributed amongst the proprietors. Mr. Rummens complains that the notice is unnecessarily insufficient, and that a larger amount of the stock being held in London and elsewhere, the first general meeting should have been held at the registered offices of the company in London, and not at a remote place like the Parkgate Works. He suggests that the meeting should be held, *pro forma*, at the works, and adjourned till such date as will give sufficient time for making up the accounts and their distribution, and that such adjourned meeting be held at the London offices, when the time can be fixed for ensuing ordinary meetings.

The Inspectors of the Midland Iron Company have discharged and completed their trust, and handed over the works to the new company in a state of thorough repair, and in a condition much superior to that in which they found them. This is consequent upon the complete renovation resulting from the lamentable accident of December, 1862, the entire cost of which, exceeding 40,000*l.*, was paid out of profits. With the final dividend declared, and the amount at which the shares are taken, the creditors will have received 9*s. 4d.* in 1*l.* on their claims, with a fair and reasonable prospect of a remunerative future dividend upon the shares of the new company. After the usual business of presenting accounts, declaring dividends, &c., had been disposed of, it was resolved that the cordial thanks of the creditors are due to the inspectors, and are hereby tendered to them, for the efficient and satisfactory manner in which they have discharged their duties; and that the sum of 25*l.* be presented to them out of the funds of the Midland Iron Company for their services.

The Chesterfield Gas and Water Bill has been before a committee of the House of Commons this week, with Mr. Jackson, one of the proprietors of the Clay Cross Company, as the committee chairman. The Town Council of Chesterfield opposed this bill on the ground that the rapid increase in the population from mining operations had been such, that with the extended area proposed, the supply to the existing population would be jeopardised. The increase has been almost unprecedented, amounting in some instances to 227 per cent. Mr. Jackson intimated, and his knowledge of the probable further mineral development of the district is no mean authority, that, however great had been the increase in mining operations during the last ten years, it was nothing compared with what it would be in the next ten years. The works now forming are of great magnitude, and as the coal acreage has been wrought extensively during the last two years, not only by existing companies, but by new ones, the trade and population of the mineral field of Derbyshire must be greatly augmented.

On Saturday Mr. Marilyn Seymour, the resident viewer of the Staveley Coal and Iron Company, breathed his last. The deceased gentleman entered the service of the late Mr. Barrow, who, in appreciation of Mr. Seymour's talents, gave to one of his most productive collieries his name. Mr. Seymour had only been ill a few weeks. It is not known whether, under the new régime of the limited company, any other gentleman will be appointed to fill the resident viewer's office.

Though the Money Market is easier, there has been little disposition to invest in our local stocks. Bank shares are tolerably firm, considering the Birmingham shock, but railways are dull, and mining shares are a drug upon the market. The dulness of the general trades, coupled with the lock-out, produce an influence upon our share markets.

SHEFFIELD, MARCH 24.—The chief subject of conversation in manufacturing circles here is the great Lock-out in the iron trade. Some apprehension has been felt lest the steel and general trades of Sheffield should be paralysed by a want of iron. We are glad to say that there is no danger of such a result. In the manufacture of steel for cutlery and all descriptions of edge-tools, Swedish iron is mainly used; and those firms which use English iron have stocks on hand which will last for months, with an ample reserve in the Swedish and other iron districts of the Continent. The funds of the lock-outs here are very low, in consequence of the large sums contributed to Leeds during the lock-out last year. They are under the Gateshead executive, who, in their efforts to bring about a settlement of the dispute, have allowed the Brierley Hill executive to anticipate them with the London societies. At present they are receiving no relief, either from London or Gateshead, and those of them who have not been provident are already feeling the pinch of poverty. Men have been sent out to collect subscriptions from the other trades in the

town, who, however, are showing some tardiness in giving aid. Unless the lock-outs here are allowed to share in the support furnished from London, they will speedily be in bad plight; and the masters are quite determined to continue the lock-out until some general terms of arrangement are come to. At the Parkgate and Midland Iron works, in the Rotherham district, exceptional circumstances have induced the masters to continue work, and Messrs. Dawes, of the Milton Works, adhere to the same decision, taking from their men an undertaking not to support the turn-outs in Staffordshire. Great complaints are made here of the obstinacy of the North Staffordshire men, backed by the Brierley Hill executive, to whom all the mischief is attributed. The emigration scheme, which has won approval in the North, has been considered at a meeting here last night, and approved. The steel, armour-plate, and general trades here are duller. The demand for coke and furnace coal has fallen off, the house coal trade being alone active.

BARNESLEY, MARCH 24.—The lock-out in the North of England and Staffordshire has acted most beneficially for this district, where the men have agreed to accept the reduction, and promised not to aid their brethren on strike. At Milton, Elsecar, and other works in our immediate neighbourhood the men are fully employed, paviors and millmen alike. The men, no doubt, take a deep interest in the struggle, but so far they have kept good faith with their employers. The dispute, and so many works being closed, has caused a large number of orders to reach our ironfoundries from quarters not previously sending. The demand for plate-iron, more particularly for the extensive shipbuilding yards on the Thames, Liverpool, and the North of England, are such that the orders far exceed the means of supply for months to come. In merchant iron, including rails, bars, angle iron, &c., there is a very good business doing, and for a long time to come the men are assured of plenty of work. The first movement made in the South Yorkshire district for putting in the hands of a limited liability company some of our most extensive works was commenced on Thursday, when the Messrs. Mitchell, of Worksop'dale, was called. That a company, and a most successful one, will be formed there is little doubt, and from the great success which has so far attended the operations of the Messrs. Mitchell, the shares will be in great demand. The senior partner is well known as a man of great and persevering ability, whilst his son is well known as an engineer of more than ordinary talent in all matters relating to the management of collieries and ironworks.

NOTES FROM LECTURES BY DR. PERCY AT THE ROYAL SCHOOL OF MINES.

In the Welsh copper smelting process, already described, we have seen that the first operation generally consists in a roasting or calcination of the ore. We have seen, also, that the object of this calcination is to eliminate a certain quantity of sulphur from the ore. The sulphur leaves the furnace in the form of sulphurous acid, and escaping in clouds into the atmosphere poisons the smelter, and destroys the land for agriculture. Despite many attempts, no means were known up to within a very recent period for economising this great mass of sulphur escaping annually into the air in the neighbourhood of Swansea; and it has remained for Mr. Peter Spence, of Manchester, to discover a plan for utilising this wasted sulphur. His idea is to have a furnace some 40 ft. long and 9 ft. broad, with its bed inclining a little downwards from the chimney end. There is a fire-place at the lowest end, which has no connection with the bed of the furnace, for the heated air from the fire is not carried over the furnace but under it, by a series of flues, and the object of this arrangement is to keep the products of the combustion of the fuel separate from the sulphur expelled from the ore. Well, the upper, or as we may term it, furnace bed receives the ore, which is introduced on its surface at the chimney end. From thence, as it becomes heated, it is drawn towards the lower, or furnace end, and from that end it is, when the calcination shall have been effected, drawn out. Now, the sulphur expelled during the heating of the ore is carried through flues to vitriol chambers, where it collects. By this simple arrangement nearly the whole of the sulphur is saved, and applied for the manufacture of sulphuric acid. Furnaces erected on the principle of Mr. Spence answer entirely the object of their invention, and it cannot be doubted that copper smelters must eventually become the great manufacturers of sulphuric acid. The cost of erecting these furnaces is moderate, and they should at once be adopted by the smelters at Swansea for the first calcination of their sulphuretted copper ores. There are, however, some smelters in England who dispense with this preliminary roasting altogether, and those who adopt the plan simplify the process, and succeed in avoiding the loss which must, to some extent, always accompany the first roasting.

We have now the product of the first operation—a calcined ore, and we next proceed to smelt that ore, and in doing so we mix with it the slag from No. 4 process; and we obtain as a result of the process coarse metal and ore-furnace slag. This coarse metal is brittle, more or less porous, in texture granular, has an uneven fracture, and is usually amorphous. It consists essentially of copper, sulphur, and iron, in the proportions of 33, 33, and 29. The slag, which is called ore-furnace slag, is black, brittle, and scaly, and nearly all of it contains distinct particles of metal. It is essentially silicate of protoxide of iron. Le Play says that the copper in it exists simply as intermingled regulus; and he lays down the quantity of copper at from 4 to 5 per cent. Now, our ore, which we surmised in the original case to be a sulphuret of (say) 6 per cent. produce, was by the first roasting freed from its excess of sulphur, and by the process just described—the first melting—the earthy impurities have been got rid of, and the bulk of the charge considerably reduced. The slag from No. 4 process was introduced in this melting, as well to be itself cleaned as to supply silica for the succeeding operations. Before tapping, the slag is skimmed from the surface of the coarse metal, and the metal itself is run into water to disintegrate it, and fit it for the next step.

The object of the calcination of the coarse metal, which constitutes the third stage of the operation, is to take out sulphur and put oxygen into the metal. Le Play holds that the sulphur is in this roasting reduced from 29 to 16 per cent.

The fourth process, which is the next in order, is that in which the roasted ore is melted with Australian malachite and refinery slags. The products of the operation are white metal, which we may consider as identical in composition with dioxide of copper and of slag, which is essentially silicate of iron, and is the slag introduced in the first melting; this slag is black, and highly crystalline. White metal may be considered as coarse metal which has lost all its iron. The white metal may, under a modification of the process, be converted into a blue metal.

Here it is necessary to deviate from the direct course of our subject, to call attention to an intervening operation—where it is necessary from a want of a proper admixture of materials to resort to an extra roasting and melting between the coarse and the white metal, and when there is produced what is called blue metal. This blue metal always contains particles of metallic copper scattered throughout it, which copper cannot have become isolated in the furnace. Le Play considers it is separated by a chemical reaction which takes place between the slag and the regulus after the material has left the furnace. Dr. Percy does not concur in this opinion.

An analysis of blue metal will yield about 56 per cent. of copper, 16 per cent. of iron, and 23 per cent. of sulphur.

To return to our white metal, the result of the fourth operation. It is submitted in the next—the fifth operation—to a roasting, which is, as before stated, effected in somewhat different ways in different works. Essentially, however, it consists in a slow melting of the white metal, and in allowing the charge, when thoroughly melted, to cool, and the effect of this cooling is to throw the metal into blisters, which breaking expose the surface of the metal to the air, and thus it becomes oxidised. After a time the temperature is raised, and the oxidised metal at the surface is mixed with the unoxidised portion, and the operation is again repeated until the metal shall become sufficiently oxidised throughout. The resultant from this fifth operation is termed blistered copper.

The last process consists in a melting and keeping of this blistered copper exposed for a long time to the oxidising action of the atmosphere, an action assisted by carbon, and a pole of wood, in the manner we have described. The last trace of iron are, in this stage, freed from the copper.

We have now to consider briefly the elimination of some of those products common in ores of copper from the metal. And first of arsenic, which is generally present in that admixture of ores smelted at Swansea. For instance, fahlerz contains it in some quantity, but whether it is in this form that it is present, as in any other combination, it is doubtful whether it is ever perfectly eliminated, and Le Play holds that it is apparent in all the stages of copper smelting. If it occurs more prominently in one stage than another, it is in the regulus in the making of best selected copper. Tin which is commonly associated with copper ores, and especially with those from Cornwall, passes away from the copper into the bottom of the furnaces. No doubt some will always be found in the regulus of copper in the form of sulphide of tin. Silver and gold are both found associated with copper in nature, and the former especially is often in sufficient quantities to make it worth the while of the smelter to extract it before reducing the copper. The plan usually adopted is to extract it when the copper is in the form of regulus. The copper ores brought from Chile especially are rich in silver. We must, however, defer this branch of our subject until we come to the metal silver, when we will enter into details of the various processes adopted for its separation from copper.

We must now say a few words about Napier's process; and we may do-

so it is one founded on the principle of the Cornish mode of copper—saying. Let us suppose we have a mixture of Cornish and Cuban ore principally sulphides. In this process they were mixed and calcined in the ordinary way, after which they were melted for coarse metal or matte. From the matte the slag was skimmed off, and when the metal was cast for every ton of metal in the furnace, 100 lbs. of sulphate of soda, 40 lbs. lime, and 60 lbs. coal slack were added. The charge being thoroughly mixed was melted down, and when molten it was tapped into sand moulds, and as soon as solidified the cakes were thrown into water, by which they became completely disintegrated. The alkaline sulphurates became dissolved, and the regulus was afterwards washed and calcined until spent—that is, until there was no longer any sulphur evolved. The calcination was effected on a three-bedded calciner and 4 tons constituted a charge. The calcined metal was then melted down with sufficient carbon to reduce the copper, and with as much silica as was required to form silicate of iron with the oxide of that metal present. The result was blistered copper, which was afterwards refined. The process is now entirely abandoned.

FOREIGN MINING AND METALLURGY.

The official Belgian statistics, published with regard to the export of iron, have undergone a certain modification this year. Thus, in place of the old sub-divisions, we find the four following heads:—Rough pig and old iron, unworked iron, cast-iron work, iron work. The changes have not given satisfaction, as the old figures, given more in detail, enabled some conclusions to be drawn which can scarcely be now arrived at. The exports of unworked iron amounted in January to 823 tons, a total in excess of that for the corresponding month of 1864, which was only 538 tons. Cast-iron work amounted to 611 tons, against 152 tons in January 1864. Iron work amounted in January to 11 tons; the tables give no comparison with the corresponding month of 1864. The shareholders of the Belgian General Railway Plant Company have held a second meeting which stood out in somewhat marked contrast with the preceding gathering. A report by the new director-general, M. Montefiore Levi, exhibited the position of the company in its true light. A valuation has been made by independent persons, comprising strangers to the administration, and their estimates have had the result of determining as nearly as possible the real value of the property of the undertaking—the equipments of Molenebeck, those of Clichey, the lands of Maubecq, and the Antwerp port. The report of M. Levi merits the attention of the shareholders. The suppression of the Clichey establishments, and the fitting workshops in Spain, as well as the conversion of works at Antwerp, will enable the administration to devote all its energies to the direction of the Molenebeck works and a fitting workshop at Milan, which alone remain in activity. A financial "combination" has been made to put fresh capital at the disposal of the company. It has been decided that a credit of 90,000 francs should be opened to the company during a period of ten years, at an interest of 1 per cent. above the discount rate of the National Bank. The Council of Administration hopes that this capital will suffice to meet the regular course of the company's operations, and all the more so, seeing that they are in some degree reduced to carrying on the Molenebeck workshops. The company has recently obtained orders, it is understood, which amount to more than 240,000 francs. In future, the reports of the Council of Administration are to be distributed before the meetings of the proprietors, so that they may be fully considered. This is, without doubt, a useful and wholesome arrangement. To accounts of the Monceau Blast-Furnaces Company, brought down to Dec. 31, 1864, show that the net disposable profit is 15,840*l.*, which enables a second dividend to be paid to the shareholders, at the rate of 1*l.* 4*s.* This division, added to 1*l.* per share already paid as interest, carries the revenue for 1864 to 11 per cent. the return on the share capital during the past year. This very favourable result is worthy of remark. The company has long occupied a stable position, the dividends paid during the last 20 years having averaged 10*s.* 2*d.* per annum, although metallurgical industry has during this long period passed through many very different phases, the collieries of the company having contributed to a fair extent to this result. The reserve now amounts to 40,000*l.*

Affairs revive with much difficulty at St. Dizier. The trade has not arrived at the re-opening of the new season, and the consequent resumption of active work; but the market remains as quiet as it was two months since. Certain works proceeded literally from day to day; but one symptom in affairs is that the stock in the forges is insignificant. We have no notable change in Paris, and concerns more particularly coke-made iron. Charcoal-made pig remains quoted at 4*l.* 12*s.* per ton; but at present there is scarcely any enquiry. Iron is quoted by continuation, rolled at 8*l.* 12*s.* to 8*l.* 16*s.*, with a scale of 4*s.* to 8*s.* per ton per cent. 10*l.* to 10*l.* 12*s.* per ton. The Paris intelligence, to which allusion is made above, given in substance. Foundry industry complaints of a want of activity in affairs; some works have been obliged to lower their tariffs 8 per cent., in order to obtain business.

The foreign copper markets have maintained a favourable appearance. Chilian in bars has provoked at Havre some very important purchases, 100 tons having been dealt in at 8*l.* 5*s.* to 8*l.* 6*s.*; 40 tons of disposable at 8*l.* 6*s.* per ton, Paris conditions; 157 tons, at 8*l.* 5*s.* to 8*l.* 6*s.* to 8*l.* 6*s.* or account; and 250 tons disposable, at 8*l.* 7*s.* to 8*l.* 8*s.* per ton. Affairs have not been very animated at Paris; nevertheless, the article remains very firm at former quotations, English in plates making 8*l.*: Chilian, 8*l.*; and Corocoro mineral, 8*l.* per ton. No striking transactions are mentioned at Hamburg; but the market has a better tone, and the net disposable profit is 15,840*l.*, which enables a second dividend to be paid to the shareholders, at the rate of 1*l.* 4*s.*. This is, without doubt, a useful and wholesome arrangement. Foundry industry complaints of a want of activity in affairs; some works have been obliged to lower their tariffs 8 per cent., in order to obtain business.

The foreign copper market has been quiet. Affairs have not presented much animation on the Paris market; rough French remains at 20*l.* 16*s.* per ton (warrants); Spanish at 22*l.* 12*s.* per ton. At Rotterdam prices have been nominal. As regards zinc, we may note that, with moderate transactions, rough Silesian maintains itself at 21*l.* 12*s.* per ton. The Hamburg market has been less animated, and the article has lost a little of the firmness which it acquired in consequence of the feebleness of the London market. Breslau has been quiet, but prices have been tolerably firm.

At Liège the demand for coal continues very satisfactory, but fears are entertained of the effects which may result from the languor which now depresses metallurgical industry. Advices from Charleroi state that former quotations are maintained with facility; stocks are unimportant. At Moes the course of freight

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of copper—Cuban ore, calcined or melted, was clear red, 40 lbs. per ton; thoroughly and mottled, which they became discoloured until sweet-scented calcination had given a charge to reduce the state of iron, melted copper, and abandoned.

THE DEVON GREAT WHEAL MARIA.

The best judges of mining matters are beginning to take a lively interest in the affairs of this mine. The oft-repeated question—"Can the success of mining be predicted with any reasonable certainty, *a priori?*?" is again put to the test, and so far as we can judge, in this instance it is likely to receive an answer in the affirmative. The reputation of some of the most responsible leaders in practical mining, with reference to their judgment, is at stake as to this mine, and we opine that they will come forth into it, for if they succeed as they ought to do, in realising their predictions, it will be another blow to the direction of shattering the old fabric, built up by the prejudices of a thousand years, and which tells us that "mining is a lottery," and that over its portals we may inscribe what Dante wrote over those of another place—"Forbear to hope all you that enter here." We do not indulge in these gloomy prospects; we have small sympathy with those wise seers who always see mischief brooding, and who, if a mine unfortunately prove to be a failure, are always ready to tender you the hopeful consolation of "I told you so;" but if, on the contrary, mine justifies the preconceptions formed of it by the best agents, shut their wise mouths, and allow judgment to go by default. We have witnessed scores of instances of these, what the French call inconsequent deductions, and we always feel inclined to visit them with our pity than our contempt. Whatever may be the fate of the Great Wheal Maria, we cannot fail to see in it an object worthy of our commendation. It is not only held up to public view by some of the best practical talent of the country, but it substantially exhibits all those great features that should be presented by a great mine in embryo. Every stroke that has yet been struck will pick on the backs of the different lodes, goes on to disclose the form of minerals that are the precursors of the more metallic bodies; and although we cannot with absolute certainty ascertain the presence, the existence, and shape of the great bodies of ore supposed to exist below, we can with our mind's eye almost touch them; and we cordially accord the company carrying out the experiment our best wishes for their success.

THE GREAT WHEAL METAL MINE.

This mine, situated on the famous lodes of the Great Wheal Vor and Wheal Metal, has begun to occupy the attention of miners and the public, from the appearance of immense formations in the veins, almost cropping out at the surface. The shafts being only a few fathoms deep, have entered into tin ground, not of the usual spare kind, most frequently seen in the upper crust of the more solid formations, and often looked upon as mere indications or specimens of a new mine, but of such solidity and value that, commercially speaking, they are of serious consequence; and, ready as soon as the machinery for the reduction of the ore can be applied, to enable the ground to be taken away at such a rate as to give large profits and dividends to the shareholders. The Great Wheal Vor lodes (previous to modern operations, which, however, have been established for upwards of half a century, continuing constantly to give extraordinary returns, from the surface to a depth of more than 300 fathoms) were all backed along the surface and worked to the depth of a few fathoms by the ancients, at a period too remote for history; but the lodes of the Great Wheal Metal have, from a curious chance, remained intact up to our own—in fact, up to the very time at which we are writing; and apparently the bodies of tin now to be sunk upon, if the analogy holds good between Wheal Metal and Great Wheal Metal, speaking of them with a reference to a money value, can only be measured by hundreds of thousands of pounds sterling. It now becomes an important consideration as to what are the best kind and quickest engines that can now be brought into operation in order to prepare the ore for the market. The old axiom that "time is money" is as true now as when it was first uttered; and, as the spring is almost upon us, the sooner the stamps are going the better. A great many things may be said in favour of the Cornish beam-engine, with its long stroke, slow motion, expansive action, and admirable performance; but there is an opinion gaining ground that the rapid high-pressure locomotive principle machine may, with considerable advantage, be applied to mining purposes. We have seen such engines rolled into the mines working with two cylinders, at 100 lbs. pressure to the square inch, and 100 strokes per minute, at stone crushing, perform prodigies of labour that staggered us in the comparison between the two, and we call upon our Cornish friends, who are so capable of doing so, to give the matter their unprejudiced consideration, and the public the benefit of it, by means of these columns.

CHEMISTRY IN THE ARTS AND MANUFACTURES.

Another volume of the new edition of "Chemical Technology,"^{**} by Messrs. Richardson and Watts, has just been issued, and contains the conclusion of the portion of the work devoted to acids, alkalies, and salts. The present volume is certainly as interesting as any which has yet appeared, containing as it does the history of the manufacture of aluminium and sodium, the industrial application of wolfram, chromates of potash and soda, gunpowder, gun-cotton, and other subjects in which the readers of the Journal are interested. The various salts are grouped as far as possible in relation to their manufacturing affinities, so that whatever particular branch of industry the reader may be engaged in he will find the account of the materials in which he is interested in close connection with each other. With regard to the manufacture of aluminium, it is explained that there are two principal processes employed in its production—Wöhler's process of heating chloride of aluminium with potassium, in a closed vessel, since modified by substituting sodium for the potassium, which has lately been carried out on an extensive scale in France, by St. Claire Deville, with the cooperation of Debray, Rousseau Frères, and Paul Morin. Aluminium may also be prepared from cryolite, the native fluoride of aluminium and sodium, by heating that mineral with sodium. This mode of preparation was first tried by Rose, of Berlin, and is now carried out on an extensive scale at Amfreville, near Rouen, by Messrs. C. and A. Tissier. Attempts have also been made, but with doubtful success, to separate aluminium from its compounds by means of the ordinary reducing agents. Each of these processes, as well as the reduction of the double chloride of aluminium and sodium by electrolysis is explained in detail, so that a thorough acquaintance with all the modes of manufacture may be readily obtained.

The stannates and tungstates of soda and potash, the chromates of potash and the silicates of potash, are next treated of, and each of these chapters must be of peculiar interest to metalliferous miners, since their manufacture and utilisation is of vast importance to them in providing an outlet for ores otherwise worse than valueless. The ore of wolfram, and some of the poorer tin ores, are the source whence the stannates and tungstates are obtained; the manufacture of the chromates enables the chrome ore, which is now heavy upon the market, to be profitably disposed of; and in the silicates we have the material which, by indurating the porous stones used for building purposes, may lead to the more extended application of stones now scarcely worth quarrying as a substitute for bricks. The processes of Young, Richardson, Haefely, and Dale, for the manufacture of the stannates, are described, and in the same chapter the modes of ascertaining the value of tin ores by the wet and by the dry way are carefully explained. In the same way the valuation of wolfram ores is given, after Oxian's and Spilsbury's processes of manufacturing tungstates has been detailed. The chapters on the chromates and silicates are equally interesting and complete. The succeeding chapters comprise chlorides of potash, phosphorus, incifer matches, hyposulphite of soda, borax, soluble phosphates, artificial mineral waters, saltpetre and nitrate and nitric acid, each of which is, in fact, an elaborate treatise upon the subject referred to.

But the next chapter in which the readers of the Journal are immediately interested are those on gunpowder and gun-cotton, both of which are elaborate, and exhaustive of the subjects. After a series of historical notices of gunpowder, the peculiar action of the substance is described, and we are then furnished with an account of the products of decomposition, of the materials used, and the preparation of the mixture and further operations. A general view of the process is thus obtained, and the reader is prepared for the account of the specific descriptions of powder which follows. Davey's blasting powder is honoured with the first place. It will be recollected that in the manufacture of this powder the materials are combined in a wet state, the paste thus produced being first brought into the form of threads by passing through threads, and, subsequently, granulated by crushing between wooden rollers. When used in blasting rocks this powder is said to effect a saving of 37 per cent., and at the same time it produces less smoke, and is altogether less dangerous, than ordinary powder. Next comes an account of Lanney's white blasting powder, which possesses the property of dislodging rock without much shattering, and without hurling the fragments to a great distance, and which must, therefore, be of much value to slate quarrymen especially. De Trete, Audouin's, and Davies, and Paine's powders are each described, and we have their accounts of gunpowder, and various information connected with it, are given in the latter part of the chapter, which is altogether of a highly interesting and instructive character.

The material next treated of is gun-cotton, which, although hitherto employed to a limited extent only, is, probably, destined at no distant period to come into extensive use, though, perhaps, not entirely to supersede gunpowder. The establishment and progress of Messrs. Prentiss's gun-cotton factory, at Stowmarket, has been already referred to in the *Mining Journal*, and an engraving of the works of this firm is given as the frontispiece to the volume. The properties of gun-cotton, in connection with blasting operations, are such that its introduction for mining purposes may well be regarded as practicable. In connection with this subject the remarks of Messrs. Richardson and Watts are peculiarly interesting. The fact that the action of gun-cotton, they observe, is violent and rapid in exact proportion to the resistance it encounters tells us the secret of its far higher efficacy in mining than gunpowder. The stronger the rock the less gun-cotton comparatively with gunpowder is necessary for the effect; so much so that gun-cotton is stronger than powder as 3 to 1 in artillery, it is stronger in the proportion of 6½ to 1 in a strong and solid rock, weight for weight, and its power of splitting up the material can be regulated at will. As it is not liable to be split apart by the miners like powder there is less danger of accidental explosion. The absence of its explosion also conduces to the comfort of the workmen.

The entire volume gives evidence of an enormous amount of labour having been bestowed upon its production, and judging from the subjects, the progress of which we especially watch, the information seems to be bought down to the latest possible period; so that the work of which this forms a portion cannot fail to find a place in the library of every manufacturer who desires a reliable work of reference to direct him and enable him to make improvements in that branch of industry in which he is engaged.

* "Chemical Technology; or Chemistry in its Applications to the Arts and Manufactures." By THOMAS RICHARDSON, Reader in Chemistry in the University of Durham, and HENRY WATTS, Editor of the *Journal of the Chemical Society*. London: Baillière.

HISTORY OF THE STEAM-HAMMER.—An interesting lecture, delivered at the Mechanics' Institution, Patricroft, by Mr. T. S. Rowlandson, who for the last twenty years has filled a responsible situation at the Bridgewater Foundry, has been reprinted in pamphlet form, and issued through Mr. A. Shattock, of Eccles. The lecture is illustrated with six engravings of hammers. There is a large amount of information contained in a comparatively small space, and the pamphlet will, no doubt, be extensively read.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending March 19 was 10,206*l.* 0s. 9d.

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THE DEVON GREAT MARIA CONSOLIDATED COPPER

MINING COMPANY (LIMITED).

Capital £50,000, divided into 5000 shares of £10 each.

Deposit £1 per share upon application, and £1 per share upon allotment.

DIRECTORS.

CHARLES JOSEPH CARTER, Esq. (Corporor for Kent), Catherine House, Blackheath, S.E.

JOHN JOHNSTONE, Esq., J.P., Friarstow House, Leitrim, and 31, Belgrave-road, S.W.

JOSEPH TILSTON, Esq., Chepstow-place, Baywater, W.

BANKERS—The Metropolitan and Provincial Bank (Limited), 75, Cornhill, E.C.

SOLICITOR—Frederick W. Snell, Esq., 1, George-street, Mansion House, E.C.

AUDITOR—Sydney G. Smith, Esq. (public accountant), 19, Coleman-street, E.C.

LOCAL MANAGER AND PURSER—Capt. Richards.

SECRETARY—Mr. Thomas Spargo.

OFFICES.

Nos. 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

PROSPECTUS.

This company has been formed for the purpose of working an extensive mineral property, situated immediately to the west of the celebrated Devon Great Consols, which, upon an outlay of £1024, has paid in dividends £945,152, the present value of that property being £588,800.

The geological position of the two mines is identical, and the same lodes pass through the entire length of the sett; it is, therefore, reasonably expected that equally favourable results will be realized.

Upwards of £15,000 has already been expended upon the property in opening up the land and making the necessary erections for a great and permanent mine, independent of which £1500 has been paid to the lord in advance, on account of dues.

The total outlay required to bring the mine into a profitable state of working has been carefully investigated, and cannot exceed £10,000.

The directors have the utmost confidence in recommending this investment to their friends and the public. It has elements of success equal, perhaps superior, to any mining enterprise undertaken since the issue of shares in the Devon Great Consols Mine, adjoining. More than one-half of the entire capital is already subscribed.

Applications for shares to be accompanied by a deposit of £1 per share, and £1 per share will have to be paid on allotment.

The operations at the mine are being carried on with all possible dispatch, under the able superintendence of Capt. Richards.

Prospectuses, reports, plans, and forms of application for shares can be had from the secretary or bankers.

THE SAN PEDRO DEL MONTE SILVER MINING COMPANY (LIMITED).

Under the Companies Act, 1862, by which each shareholder's liability is limited to the amount unpaid on his shares.

Capital £75,000, in 15,000 shares of £5 each.

10s. per share to be paid upon application, and 10s. on allotment.

No call to exceed £1 per share, nor to be made at intervals of less than two months.

DIRECTORS.

Lieut.-Gen. Sir RICHARD BIRCH, K.C.B., Jermyn-street, St. James's (late Military Secretary to the Government of India), CHAIRMAN.

DAVID WILSON, Esq., East India merchant, 79, Cannon-street, London (Chairman of the Washoe United Gold and Silver Mining Company).

ALEXANDER CALDER, Esq., Hotham-villas, Putney (Director of the Marine Investment Company).

JAMES JOHN FROST, Esq., shipowner, London-street, London (Director of the Ouvah Coffee Company).

EDMUND LYNCH NUGENT, Esq., New-square, Lincoln's-inn (Director of the Washoe United Gold and Silver Mining Company).

JOHN RANDON WORCESTER, Esq., East India merchant, Cannon-street, London (Director of the Ceylon Coffee Company).

HENRY HART POTTS, Esq., Maidstone (formerly Superintendent at Bombay to the Peninsular and Oriental Steam Navigation Company).

Capt. THOMAS BLENKINSOP WHITE, Yanbrugh Park, Blackheath.

BANKERS—The Agra and Masterman's Bank (Limited), Nicholas-lane, London.

SOLICITORS—Messrs. Courtenay and Croome, 9, Gracechurch-street, London.

BROKER—John Inchbald, Esq., 2, Coothall-court, and Stock Exchange, London.

SUPERINTENDENT IN MEXICO—W. H. Chynoweth, Esq.

AGENTS IN MEXICO—Messrs. Lohse and Sons.

SECRETARY—Mr. J. A. Robertson.

OFFICES,—79, CANNON STREET, LONDON, E.C.

Full prospectuses, with reports and map of the mine, may be had of the bankers, brokers, solicitors, and at the offices of the company.

THE SAN PEDRO DEL MONTE SILVER MINING COMPANY (LIMITED).

Notice is hereby given, that NO FURTHER APPLICATIONS FOR SHARES in the above company will be RECEIVED after TUESDAY next, the 28th inst.

By order of the Board,

J. A. ROBERTSON, Sec.

THE NATIONAL BOILER INSURANCE COMPANY (LIMITED).

CHIEF OFFICES..... 145, CHEAPSIDE, LONDON.

BRANCH OFFICE..... 22, ST. ANN'S SQUARE, MANCHESTER.

Tables of rates for insuring stationary and marine steam boilers can be had on application at the offices of the company.

A reduction of 10 per cent. will be made off all premiums in cases where the company's patent fusible safety-plug is used.

By order of the Board, JOHN HENRY TILLY, Sec.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY,

13, ST. JAMES'S SQUARE, LONDON, S.W.

ESTABLISHED 1824.

PRESIDENT—The ARCHBISHOP OF CANTERBURY.

CHAIRMAN—Right Hon. JOHN ROBERT MOWBRAY, M.P.

DEPUTY-CHAIRMAN { WILLIAM BOWMAN, Esq., F.R.S.

{ SIR CHARLES LOCOCK, Bart., F.R.S.

FINANCIAL RESULTS OF THE SOCIETY'S OPERATIONS.

The Annual Income exceeds £ 201,000

The Assurance Fund, safely invested, is over 1,446,000

The New Policies in the last year were 466, assuring 271,440

The Bonus added to policies at the last division was 275,077

The total claims by date paid amount to 1,962,629

The following are among the distinctive features of the society—

CREDIT SYSTEM.—On any policy for the whole of life, where the age does not exceed 60, one-half of the annual premiums during the first five years may remain on credit, and may either continue as a debt on the policy or be paid off at any time.

LOW RATES OF PREMIUM FOR YOUNG LIVES, with early participation in profits.

ENDOWMENT ASSURANCES may be effected, without profits, by which the sum assured becomes payable on the attainment of a specified age, or at death, whichever event shall first happen.

INVALID LIVES may be assured at rates proportioned to the increased risk.

PROMPT SETTLEMENT OF CLAIMS.—Claims paid thirty days after proof of death.

The Reversionary Bonus at the quinquennial division in 1862 averaged 48 per cent. and the cash bonus 28 per cent., on the premiums paid in the five years.

The next Division of Profits will take place in January, 1867, and persons who effect New Policies before the end of June next will be entitled at that division to one year's additional share of profits over later entrants.

Tables of rates and forms of proposal can be obtained of any of the society's agents, or of GEORGE CUTCLIFFE, Actuary and Secretary, 13, St. James's-square, London, S.W.

CAPT. C. WILLIAMS, TYN-Y-WERN, TALIESIN, via SHREWSBURY, has had upwards of 20 years' practical experience in mining, during which time he had the entire management of several English and Welsh mines.

Residing in the centre of the CARDIGANSHIRE MINING DISTRICT, and in close proximity to those of MERIONETHSHIRE and MONTGOMERYSHIRE, he OFFERS HIS SERVICES TO SURVEY and REPORT UPON ANY MINE.

CAPT. CHARLES WILLIAMS begs to inform all parties connected with mining that he is now in a position to **UNDELTAK CONTRACTS** for the ERECTION of ALL KINDS of MACHINERY, LEVELLING or MAKING WATER COURSES and RESERVOIRS. Also, for TUNNELLING and SINKING ANY QUANTITY of GROUND, having always ready a sufficient number of mechanists and miners to complete any work he may undertake, with punctuality and dispatch. References given if required.

Tyn-y-Wern, Taliesin, via Shrewsbury, January 16, 1865.

B RITISH AND FOREIGN INVESTMENT.—
MR. THOMAS SPARGO, STOCK, SHARE, AND MINING BROKER, 224, and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C. TRANSACTS EVERY DESCRIPTION of BUSINESS in the PURCHASE and SALE of SHARES in BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, and ALL OTHER DESCRIPTIONS of BRITISH and FOREIGN STOCK.

Mr. Spargo has for sale shares in English mines paying from 10 to 20 per cent. upon the present price, in bi-monthly and quarterly dividends, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. Spargo gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will at all times give the best advice as to investment in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property. Upon the receipt of £5, he will furnish a selected list of dividend and progressive companies.

Mr. Spargo has published the following works, viz.:—

Statistics and Observations upon the Mines of Cornwall, 1859, price 2s. 6d.

Ditto ditto 1860, price 2s. 6d.

Ditto ditto 1862, price 5s.

Ditto ditto 1864, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c. Price 10s. 6d., on cloth and rollers.

Geological maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and eleven courses by which it is traversed. Price 2s. 6d. each.

A Model or Relief map of Cornwall (5 ft. 6 in. by 5 ft.), presenting the names of every town and village, as also every characteristic point of the county. Price £5 5s.

Dividends received, calls paid, and all orders promptly negotiated.

Commission 1½ per cent.

Mr. Spargo has 20 years' experience of mining, ten of which he was engaged in practical mining, and ten years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.

Mr. Spargo's Statistics for 1865 will soon be published.

Bankers: Bank of London, and the Metropolitan and Provincial Bank (Limited).

M R. BRENTON SYMONS INSPECTS and REPORTS on MANY MINERAL PROPERTY. In all cases where practicable a plan will accompany his report.—18, Hatton-garden, E.C.In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST CORNWALL CONSOLS TIN AND COPPER MINING COMPANY (LIMITED).—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 16th day of March last, presented to the Vice-Warden of the Stannaries, by Joseph Palmer, a contributory of the said company, and that the said petition is directed to be heard before the Vice-Warden, at No. 15, Tharioe-square, Kensington, in the county of Middlesex, on Thursday, the 13th day of April next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitor, or agents, of his intention to do so, such notice to be forthwith forwarded to P. Smith, Esq., secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioner or his solicitor, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 10th day of April next, and notice thereof must at the same time be given to the petitioner, his solicitor, or agents.

JOSEPH MUSKETT YETTS, Temple Chambers, Fleet-street, London
(Solicitor for the Petitioner).
HODGE, HOCKIN, AND MARRACK, Truro, Cornwall
(Agents of the said Solicitor).

Dated Truro, March 22, 1865.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST PAR CONSOLS MINING COMPANY.—By an order made by his Honour the Vice-Warden of the Stannaries, in the above matter, dated the 20th day of March last, on the petition of Charles Martin, of No. 28, Backsburys, in the City of London, a contributory of the said company, it was ordered that the said WEST PAR CONSOLS MINING COMPANY should be WOUND-UP by the Court, under the provisions of the Companies Act, 1862.

BOLTON AND GRYLLS HILL, 4, Elm-court, Temple, London
(Solicitors for the Petitioner).HODGE, HOCKIN, AND MARRACK, Truro, Cornwall
(Agents of the said Solicitors).

Dated Truro, March 22, 1865.

In Chancery.

IN RE the COMPANIES ACT, 1862, and RE the BRITISH COPPER COMPANY (LIMITED).—TO BE SOLD, BY PUBLIC TENDER, all that VALUABLE MINERAL PROPERTY, called the REDNAL COPPER MINE, situate at Eardiston, Salop, within two miles of the Rednal Station on the Shrewsbury and Chester Railway, together with the EXTENSIVE BUILDINGS, PLANT, STORES, and MATERIALS, by Mr. H. THREEKELD EDWARDS (the Liquidator of the British Copper Company, Limited), at his office, No. 9, King's Arms-yard, Moorgate-street, London, on Monday, the 24th day of April, 1865, at One o'clock precisely.

The seat extends over about 115 acres, and about half a mile on the run of the lede. It is granted for the term of 21 years, from the 25th December, 1864, at a royalty of 1½ per cent. and a yearly rent of £100, to merge into royalty, and is determinable at twelve months' notice.

An engine-shaft has been sunk to the depth of 30 fms. There are also two other shafts, and levels are driven opening up a considerable extent of ground. There are upon the mine 100 tons (computed) of rich quality copper ore, ranging from 8 to 15 per cent. produce.

Convenient and substantial STONE-BUILT BUILDINGS have been erected in immediate contiguity to the turnpike road, comprising engine-house, fitted up with 12-horse-power ENGINE (complete), material house, blacksmith's shop, carpenter's shop, changing house, account house, and engine house for 60-horse power engine (unfinished).

The mine is situated in the sandstone formation; the lede is well defined, and about 4 ft. wide, with a feeder, about 18 in. in width, of rich copper ore.

Being a pure carbonate of copper, similar to the ore of the Alderley Edge Mines, the copper is extracted from the ore, on the mine itself, by precipitation, at so moderate a cost that the before-named mine is paying 100 per cent. dividends, although their ore only average a produce of 1½ per cent.

The mine has been favourably reported on by Capt. Charles Thomas, of Dolcoath; Capt. Francis Phillips, late of Alderley Edge; and Capt. Pascoe, of the Mottram Mines, near Alderley. Copies of such reports can be obtained on application.

Upwards of £3500 have been laid out on the mine within the last two years, and it is believed that if £1000 is expended in building tanks for precipitating the copper, and extending the levels, large returns will be made by the proprietors.

Orders to inspect the above property can be obtained on application to the liquidator, at his office, where particulars and conditions of sale can be had; as also of A. PULBROOK, Esq., Solicitor, 31, Threadneedle-street, London; at the Raven Hotel, Shrewsbury; the Railway Hotel, Rednal; and of Mr. CHARLES PRICE, at the mine.

In Chancery.

PURSUANT to an Order of the High Court of Chancery, made in the Matter of the Estate of GEORGE GORDON, late of 15, Howley-place, Paddington, in the county of Middlesex, Esq., deceased, and in a Cause BIRKMYRE v. HUME, the CREDITORS of the said George Gordon, who died on or about the 16th day of December, 1864, are by their solicitors, on or before the 24th day of April, 1865, to COME IN and PROVE THEIR DEBTS at the Chambers of the Vice-Chancellor Sir John Stuart, No. 12, Old-square, Lincoln's-inn, Middlesex, or in default thereof they will be summarily excluded from the benefit of the said order.

Monday, the 1st day of May, 1865, at One o'clock in the afternoon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.

ALFRED HALL, Clerk.

HUME AND BIRD, 10, Great James-street, Bedford-row, Plaintiff's Solicitors.

NICHOLLS, WILLIAMS, AND CO., ENGINEERS,
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on
the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention
of the public to the manufacture of our BOILERS, which have been tested by most of
the leading engineers. PUMP WORK CASTINGS OF EVERY DESCRIPTION, both
of brass and iron. HAMMERED IRON and HEAVY SHAFTS of ANY SIZE.
CHAINS made of the best iron, and warranted. RAILWAY WORK of EVERY
DESCRIPTION. ALL ORDERS FOR ARROAD RECEIVE their BEST ATTENTION. NICHOLLS,
WILLIAMS, and Co. have had 20 years' experience in supplying machinery to foreign
mines, and selecting experienced workmen to erect the same, where required.
Messrs. NICHOLLS, WILLIAMS, and Co. have always a LARGE STOCK of SECOND-
HAND MINE MATERIALS in stock, and at moderate prices.

PATENT FLEXIBLE TUBING,
AND BRATTICE CLOTH FOR MINES,
MANUFACTURED BY
ELLIS LEVER,
PATENTEE,
WEST GORTON WORKS, MANCHESTER.

TAVISTOCK IRONWORKS AND STEEL ORDNANCE
COMPANY (LIMITED).

(LATE GILL AND CO.)
ENGINEERS, IRON AND BRASS FOUNDRERS,

MANUFACTURERS OF
STEAM ENGINES, BOILERS, AND MACHINERY OF ALL KINDS.
CHAINS, SHOVELS, EDGE TOOLS, AND EVERY DESCRIPTION OF CAST
AND HAMMERED IRON FOR MINING, MANUFACTURING,
RAILWAY, OR AGRICULTURAL PURPOSES.

Machinery sent to all parts of the world.

Foreign mining companies supplied on liberal terms.

RAILWAY CARRIAGE COMPANY (LIMITED),
ESTABLISHED 1847.

OLDBURY WORKS, NEAR BIRMINGHAM.

MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY
DESCRIPTION OF IRONWORK.

Passenger carriages and wagons built, either for cash or for payment over a
period of years.

RAILWAY WAGONS FOR HIRE.

CHIEF OFFICES—OLDBURY WORKS, NEAR BIRMINGHAM.

LONDON OFFICES—6, STOREY'S GATE, GREAT GEORGE STREET,
WESTMINSTER.

THE BEVERLEY IRON AND WAGON COMPANY
(LIMITED).

MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, WROUGHT
and CAST IRON CARRIAGES and WAGON WHEELS, AXLES, HAMMERED
IRON, and HEAVY SMITHS' WORK for ENGINEERS, &c. BRASS and IRON
FOUNDRERS. MAKERS OF PORTABLE FARM RAILWAYS, TURNTABLES,
CROSSINGS, SWITCHES, &c. AGRICULTURAL MACHINISTS. MANUFAC-
TURERS OF FIELD, ROAD, and BARN IMPLEMENTS, PATENT LORRY,
CART, and CARRIAGE WHEELS, with WOOD or IRON NAVES. REAPING
MACHINES, CLOD CRUSHERS, CORN MILLS, &c. SAW MILL PROPRI-
ETORS. GENERAL TIMBER CONVERTERS for HOME and FOREIGN RAIL-
WAYS, STATIONS, BARRACKS, EXHIBITIONS, &c.

IRONWORKS, BEVERLEY, YORKSHIRE.

JAMES DEWHIRST, Sec.

THE BIRMINGHAM WAGON COMPANY (LIMITED)

MANUFACTURE RAILWAY WAGONS of EVERY DESCRIPTION, for
HIRE and SALE, by immediate or deferred payments. They have also wagons for hire
capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping
purposes. Wagons in working order maintained by contract.

EDMUND FOWLER, Sec.

OFFICES—3, NEWHALL STREET, BIRMINGHAM.

THE MIDLAND WAGON COMPANY.
ESTABLISHED 1853.

RAILWAY WAGONS.—This company having from SIX to SEVEN THOUSAND
COAL, COKE, IRONSTONE, and BALLAST WAGONS, have generally a number
TO LET for one or more years, including repairs, at Rugby, Peterborough, Shrewsbury,
Chester, Carnforth, Stoke-on-Trent, Staveley, Drotwich, Worcester, Gloucester, Reading,
Hereford, Newport (Mon.), Cardiff, and Birmingham.

They also contract for wagon repairs at any of the above stations.

The company build every description of railway wagons and carriages for cash or by
deferred payments extending over three, five, seven, or ten years.

Midland Works, Birmingham.

HENRY BRIDGES, Sec.

Swan Rope Works.

GARNOCK, BIBBY, AND CO.,
CHAPEL STREET, LIVERPOOL,

MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE
ROPE for MINING, RAILWAY, and SHIPPING PURPOSES.

MANILLA ROPE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER,
and THIRTY PER CENT. CHEAPER than Russian hemp rope.

WIRE ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD of
STRENGTH.

Gun Cotton Manufactory.

MESSRS. THOMAS PRENTICE AND CO.,
GREAT EASTERN CHEMICAL WORKS, STOWMARKET, SUFFOLK.

This manufactory has been established for the purpose of preparing GUN COTTON,
according to the Austrian process, and was opened on the 26th of January last, under
the inspection of Baron Lenk. Messrs. Thomas Prentice and Co. are now able to
SUPPLY GUN COTTON, in its most approved form, either for the purposes of engi-
neering and mining, or for military and submarine explosion, and for the service of
artillery, as a substitute for gunpowder.

The advantages of Baron Lenk's GUN COTTON are the following:—

For PURPOSES of ARTILLERY.—The same initial velocity of the projectile can be ob-
tained by a charge of gun cotton one-fourth of the weight of gunpowder. There is no
smoke from the explosion of gun cotton; it does not foul the gun, nor heat it to the
injurious degree of gunpowder. There is much smaller recoil of the gun. The same initial
velocity of projectile is produced, with a shorter length of barrel. In projectiles of the
nature of explosive shells it breaks the shell more equally into much more numerous
pieces than gunpowder. When used in shells, one-third the weight of gun cotton pro-
duces double the explosive force of gunpowder.

For CIVIL ENGINEERING and MINING.—In driving tunnels through hard rock a charge
of gun cotton of given size exerts double the explosive force of gunpowder, thus a smaller
number of holes is necessary. It may be so used as, in its explosion, to reduce the rock
to much smaller pieces than gunpowder, and so facilitate its removal. As gun cotton
produces no smoke, the work can proceed much more rapidly, and with less injury to the
health of the miners. In working coal mines the advantages of bringing down much
larger quantities of material with a given charge, and the absence of smoke in the ex-
plosion, enable a much greater quantity of work to be done in a given time at a given
cost. The weight of gun cotton required to produce a given effect in mining is only
one-sixth the weight of gunpowder. In blasting rock under water the wider range
and greater force of a given charge is a great element in cheapening the cost of submarine
work. The peculiar local action of gun cotton, to which the effects of gunpowder show
no analogy, enables the engineer to destroy and remove submarine stones and rocks,
without the preliminary delay and expense of boring chambers for the charge.

For MILITARY ENGINEERING.—The facility of transport is increased, the weight of
gun cotton being one-sixth that of gunpowder. The peculiar localised action of gun cotton
facilitates the destruction of bridges and palisades, and every obstacle. For sub-
marine explosion, gun cotton has the advantage of a much wider range of destructive
power than gunpowder. For the same purpose gun cotton, from its lightness, has the ad-
vantage of keeping about the water-tight case in which it is contained, while gunpowder
sinks it to the bottom.

For NAVAL WARFARE.—In the batteries of ships, between decks, and in casemated
forts, the absence of smoke facilitates continuous rapid firing. The absence of fouling
and of heating are equally advantageous for naval as for military artillery.

GENERAL ADVANTAGES.—Time, damp, and expense do not alter the qualities of the
patent gun cotton. It has already been preserved 10 years without injury or decay.
It can be transported through fire without danger, simply by being wetted, and when
dried in the open air it becomes as good as before. In the case of a ship, or a fortress, or
any thing being on fire, this quality may be of the greatest value. It is much safer than
gunpowder, owing to its being manufactured in the shape of rope or yarn. It cannot escape
from its package, or be spilled by accident. The patent gun cotton is entirely free from
the danger of spontaneous combustion, and secures that degree of safety and certainty
which, at the time of the original invention, the gun cotton of Schönbein did not possess.

Messrs. Thomas Prentice and Co. are now in a position to contract with the owners
of mines, engineers, contractors, and governments for gun cotton prepared in the various
forms required for their use. Mining charges will be supplied in the rope form, accord-
ing to the diameter of bore required, and gun cotton match-line, as well as instructions
for using it in mines, will be supplied with it.

The great advantage of gun cotton makes its use in practice very much cheaper than
its comparative price would appear to show; in blasting rock, for example, the rapidity
and quantity of the work done, with a given expense of wages, &c., is largely in favour
of gun cotton.

Messrs. Thomas Prentice and Co. are also prepared to manufacture the gun cotton,
and deliver it in the form of gun cotton, adapted to every description of ammunition;
all they require for this purpose being a drawing of the gun, gunpowder cartridges, and
ammunition, with the specification of weights, sizes, and initial velocities.

Artilleries who prefer to manufacture their own cartridges may make special arrange-
ments with the patentees through Messrs. PRENTICE and Co.

NEWCASTLE CHRONICLE AND NORTHERN
COUNTIES ADVERTISER. (ESTABLISHED 1764).
Published every Saturday, price 2d., or quarterly 2s. 2d.

Office, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields;

155, High-street, Sunderland.

TO THE HARDWARE TRADE.
RYLAND'S IRON TRADE CIRCULAR is now the
leading journal of the trade. Supplied to subscribers only.

One year £2 2 0

Half a year 1 1 0

Quarter of a year 0 10 0

Payable in advance.

Office for advertisements, Union-passage, Birmingham.

THE STOCKTON AND HARTLEPOOL MERCURY AND
MIDDLESBOROUGH NEWS (published at Hartlepool) is eminently the organ
of the Coal, Iron, and Iron Ship-building Trades in the extensive Mining and Maritime
districts of South Durham and Cleveland, with which it has been closely identified since
its origin. The "Mercury" was for years the only newspaper published in South Dur-
ham and Cleveland, and is yet the only one published more than once a week. Adver-
timents to be forwarded to the publisher, Mr. JOHN H. BELL, Soutlegate, Hartlepool.

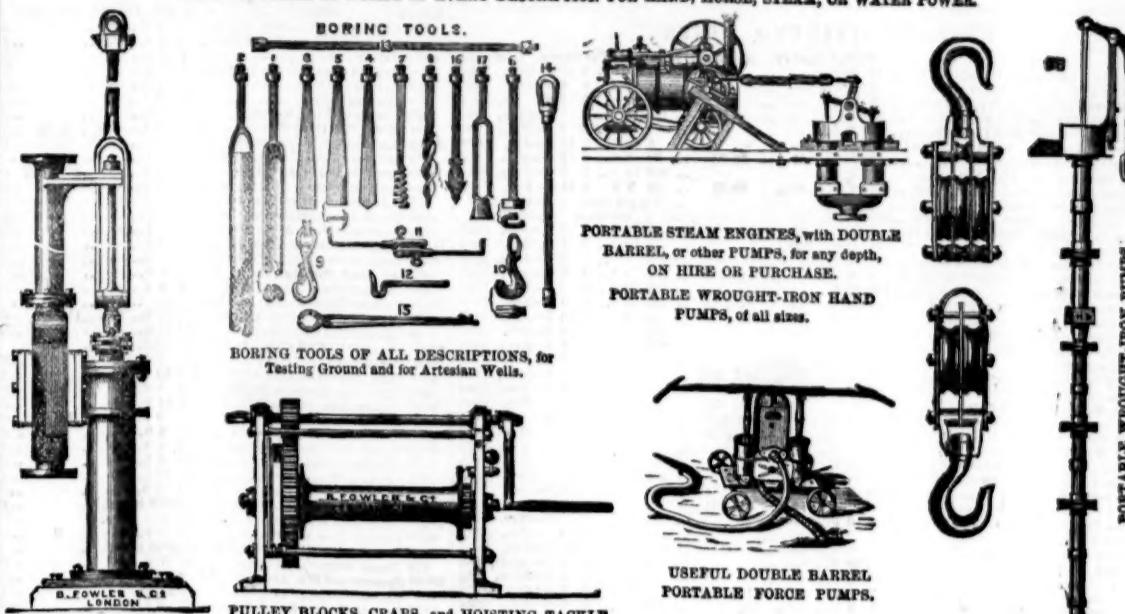
THE MINING JOURNAL.

CLINTON AND OWENS (LATE B. FOWLER AND CO.).

WHITEFRIARS STREET, FLEET STREET, LONDON,

HYDRAULIC AND GENERAL ENGINEERS,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND, HORSE, STEAM, OR WATER POWER.



BORING TOOLS OF ALL DESCRIPTIONS, for
Testing Ground and for Artesian Wells.

PULLEY BLOCKS, CRABS, and HOISTING TACKLE,
of every description, and of superior manufacture.

PRICE LISTS, ESTIMATES, DRAWINGS, and FULL PARTICULARS of anything relating to work of classes noted above, may be had on application.

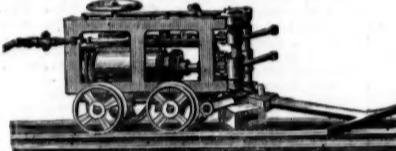
COAL CUTTING MACHINERY.—

The WEST ARDSLEY COMPANY having, by recently patented improvements,
perfected their coal cutting machinery, worked by compressed air, are NOW READY
to MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.
The results of twelve months' experience in the working of these machines, by the
West Ardsley Company, have proved most satisfactory, their use being found to
CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN
the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.

All communications to be made to Messrs. FIRTH, DOMINICHE, and BOWER, No. 8,
Britannia-street, Leeds.

NOTICE.—The WEST ARDSLEY COMPANY, having reason
to believe that their patents are being infringed upon, hereby give notice that
they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may
MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any
such INFRINGEMENT is MADE.

COAL CUTTING BY MACHINERY.



MESSRS. RIDLEY AND CO. have, by recently PATENTED
IMPROVEMENTS, COMPLETED their TRUNK COAL CUTTING MA-
CHINE, WORKED by COMPRESSED AIR, and are NOW PREPARED to NE-
GOCIATE for the USE, and to SUPPLY MACHINES, which will be found to
COMBINE SIMPLICITY of CONSTRUCTION with PORTABILITY and ECONOMY
in WORKING. By the use of these machines a CONSIDERABLE SAVING of COAL
is EFFECTED, and the COST of LABOUR MUCH REDUCED. Each machine will
be guaranteed as to its capabilities, &c.

All applications to be made to Messrs. RIDLEY and Co., No. 11, South-street, Finsbury
London, E.C.; or Mr. PERCY HAWKINS, agent, 9, Clement's-lane, E.C.

* * * COLLIER PROPRIETORS are CAUTIONED against PURCHASING or
USING MACHINES, the construction of which will constitute an INFRINGEMENT
of the ABOVE PATENT.

HENRY HUGHES AND CO.,
FALCON RAILWAY PLANT WORKS,
LOUGHBOURGH,
ENGINEERS, IRONFOUNDERS, BOILER MAKERS, and MANUFACTURERS of
EVERY DESCRIPTION of RAILWAY MACHINERY.

LOCOMOTIVE ENGINES, for MINERAL and CONTRACTORS' RAILWAYS, of
the best materials and workmanship, always in progress. These engines are designed
to supply the chief requisites in tank locomotives—viz., reduction of the overhanging
weight at the fire-box end, proper distribution of the weight upon the wheels, and keep-
ing the centre of gravity low. These are accomplished by making the fire-box and its
shell on an improved principle, which enables the driving axle to be placed further back,
without interfering with the eccentrics and valve gear, which are of the usual simple
description.

THOMAS TURTON AND SONS
MANUFACTURERS OF
CAST STEEL for PUNCHES, TAPS, and DIES,
TURNING TOOLS, CHISELS, &c.

CAST STEEL PISTON RODS, CRANK PINS, CON-
NECTING RODS, STRAIGHT and CRANK AXLES,
SHAFTS and
FORGINGS of EVERY DESCRIPTION.

DOUBLE SHEAR STEEL, FILE MARKED
BLISTER STEEL, SPRING STEEL,
GERMAN STEEL, T. TURTON, EDGE TOOLS MARKED
WM. GREAVES & SO

Locomotive Engine, Railway Carriage and Wagon
Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD,
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.,
Where the largest stock in the world may be selected from.

First Class Silver Medal, Royal Polytechnic Society,
Falmouth, 1864.

CREESE'S PNEUMATIC TUNNELLING ENGINE,
for SUPERSEDING the SLOW and EXPENSIVE USE of MANUAL LABOUR
in SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to
drive through any rock of average hardness at a minimum rate of 1 fm. per diem, and
to sink shafts at the rate of 3 fms. in three days.

Mr. CREESE will undertake contracts for sinking shafts, driving levels, &c., at an en-
ormous reduction of time and great saving in cost.

Applications to be addressed (for the present) to the patentee, Mr. E. S. CREESE,
Tavistock, Devon.

THE CLUTCH SAFETY CAGE, IMPROVED.—

The improvement consists in its having only a single spring, which is strong
enough to take the lift of the loaded cage; to overhail the broken rope, however distant
the fracture may be; and yet so conditioned that it cannot bring the clutches into play
till the rope is broken. It is an ordinary carriage spring, and can be replaced, when
needed, at any coach-work. Makers of cages, or inventors, who may wish to combine
the safety clutch with their own improvements are respectfully informed that liberty
is given to them on easy terms.—Apply to the patentee, ROBERT ATTOUT,
3, Fettes-row, Edinburgh.

International Exhibition, 1862—Prize Medal.



JAMES RUSSELL AND SONS
(the original patentees and first makers of wrought-iron
TUBES, of the CROWN PATENT TUBE WORKS, WEDNESBURY, STAFFORDSHIRE, have been AWARDED a
PRIZE MEDAL for the "good work" displayed in their
wrought-iron tubes and fittings.

Warehouse, 81, Upper Ground-street, London, S.

BICKFORD'S PATENT SAFETY-FUSE OBTAINED the
PRIZE MEDALS at the ROYAL EXHIBITION of 1861, at the INTERNA-
TIONAL EXHIBITION of 1862, in London, and at the IMPERIAL EXPOSITION
held in Paris, in 1865.

BICKFORD, SMITH, AND CO.,
TUCKINGMILL, CORNWALL, MANUFACTURERS of
PATENT SAFETY-FUSE, having been informed that the
name of their firm has been attached to fuse not of their
manufacture, beg to call the attention of the trade and public to
the following announcement:

EVERTY COIL of FUSE MANUFACTURED by them has
TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOW-
DER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE
THREADS as THEIR TRADE MARK.

Prize Medals—International Exhibition, Class 1 and 2.

PATENT PLUMBAGO CRUCIBLES.—

The CRUCIBLES manufactured by the PATENT PLUMBAGO CRUCIBLE
COMPANY are the ONLY KIND for which a MEDAL has
been AWARDED, and are now used exclusively by the English,
Australian, and Indian Mints; the French, Russian, and other
Continental Mints; the Royal Arm

THE MINING SHARE LIST

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last paid
100 Aldersey Edge (cop.), Cheshire [L.]..	10 0 0 ..	..	..	..	11 3 0 .. 0 10 0 Dec. 1864	..
4000 Bedford United (copper), Tavistock ..	2 6 8 ..	..	..	..	18 11 6 .. 0 2 6 Oct. 1864	..
1248 Boscastle (tin, copper), St. Just ..	6 15 0 ..	..	..	..	1 3 0 .. 0 8 0 May. 1864	..
200 Botallack (tin, copper), St. Just ..	91 6 0 ..	..	..	..	477 15 0 .. 0 8 0 May. 1864	..
1600 Brixham Hematite Iron [L. £28] ..	6 7 6 ..	..	..	..	0 6 0 .. 0 8 0 Nov. 1864	..
1000 Bronfynod (lead), Cardigan [L. £18] ..	12 0 0 ..	..	..	..	5 10 0 .. 0 18 0 Jan. 1865	..
916 Cargoll (silver-lead), Newlyn ..	18 8 7 .. 32 ..	33 35 ..	..	..	10 0 .. 0 12 0 Mar. 1865	..
1000 Carr Brae (copper, tin), Illogan ..	15 0 0 ..	..	..	..	280 10 0 .. 0 2 0 June. 1864	..
2800 Clifford Amalgamated (cop.), Gwen. ..	30 0 0 ..	30 31 ..	..	..	34 3 6 .. 0 12 6 Feb. 1865	..
2000 Copper Miners of England ..	25 0 0 ..	..	..	..	7 1/2 per cent. .. Half-yearly.	..
4000 Ditto ditto (stock) ..	100 0 0 ..	..	..	..	1 per cent. .. Half-yearly.	..
867 Cwm Elin (lead), Cardiganshire [L.] ..	7 10 0 ..	39 ..	..	..	14 18 0 .. 1 0 0 Mar. 1865	..
128 Cyngwstwith (lead), Cardiganshire ..	60 0 0 ..	150 ..	..	..	275 10 0 .. 0 4 0 Jan. 1865	..
280 Derwent Mines (sl., lead), Durham ..	800 0 0 ..	..	..	..	152 0 0 .. 0 5 0 June. 1864	..
1224 Devon Gt. Com. (cop.), Tavistock [S.E.] ..	1 0 0 ..	..	..	..	580 590 .. 962 0 0 .. 9 0 0 Mar. 1865	..
558 Dolcoath (copper, tin), Camborne ..	127 17 6 ..	..	..	..	796 10 0 .. 5 0 Feb. 1865	..
512 East Bassett (cop.), Redruth [S.E.] ..	29 10 0 ..	15 ..	..	..	126 0 0 .. 0 1 0 Nov. 1864	..
6144 East Caradon (copper), St. Cleer [S.E.] ..	2 14 6 ..	..	..	..	12 12 0 .. 0 10 Jan. 1865	..
300 East Dartre (lead), Cardiganshire ..	92 0 0 ..	..	..	..	103 10 0 .. 2 0 Feb. 1865	..
128 East Pool (tin, copper), Pool, Illogan ..	24 5 ..	..	..	..	389 10 0 .. 4 0 June. 1864	..
5000 East Rosewarne (cop., tin), Gwinear ..	2 15 0 ..	21/2 ..	..	..	0 4 6 .. 0 2 Feb. 1865	..
1906 East Wheal Lovell (tin), Wendron ..	2 18 6 ..	11 1/2 .. 13 1/2 ..	..	..	1 10 0 .. 0 5 0 May. 1864	..
2800 Foxdale (lead), Isle of Man [L.] ..	25 0 0 ..	..	..	..	86 0 0 .. 0 1 0 Mar. 1865	..
5000 Frank Mills (lead), Christow ..	18 16 ..	6 1/2 .. 6 1/2 ..	..	..	2 0 6 .. 0 6 Feb. 1865	..
12000 Great Laxey (lead), Isle of Man [L.] ..	4 0 0 ..	19 1/2 .. 19 ..	..	..	2 1 0 .. 0 10 0 Mar. 1865	..
5908 Great Wh. Vor (tin, cop.), Helston [S.E.] ..	40 0 0 ..	32 1/2 .. 32 ..	..	..	6 2 0 .. 0 12 0 Mar. 1865	..
119 Great Work (tin), Germoe ..	100 0 0 ..	..	..	..	15 0 0 .. 5 0 Aug. 1864	..
1024 Herodsfoot (ld.), near Liskeard [S.E.] ..	8 18 0 ..	..	..	..	31 10 0 .. 1 2 0 Feb. 1865	..
400 Laburne (lead), Cardiganshire, Wales ..	18 15 0 ..	180 ..	..	..	430 10 0 .. 3 0 Feb. 1865	..
2000 Mass-y-Saint (lead) [L.] ..	20 0 0 ..	..	..	..	1 0 0 .. 1 0 0 Oct. 1864	..
9000 Miskie Valley (copper), Cadoxon ..	4 10 0 ..	5 1/2 .. 5 1/2 ..	..	..	2 18 0 .. 0 2 6 Jan. 1865	..
3000 Miners Boundary (lead), Wrexham [L.] ..	1 0 0 ..	..	..	..	0 6 0 .. 0 2 0 Mar. 1865	..
18000 Miners Mining Co. [L.], Id., Wrexham 25 0 0 ..	..	..	..	..	169 18 0 .. 7 0 Feb. 1865	..
40000 Miners of Ireland (cop., lead, coal) ..	7 0 0 ..	..	..	..	16 19 7 0 .. 2 0 Jan. 1864	..
40000 Myndy (iron ore) [L. £24] [S.E.] ..	2 18 0 ..	..	..	..	0 4 0 .. 0 2 0 April. 1865	..
250 Nanty Mines (lead), Montgomery ..	20 0 0 ..	..	..	..	7 0 0 .. 1 0 0 June. 1864	..
6000 New Birch Tor and Tiffner Cons. (tin) ..	1 6 6 ..	..	..	..	0 11 0 .. 0 2 0 Oct. 1864	..
828 North Treskerby (copper), St. Agnes ..	1 9 0 0 ..	2 1/2 .. 2 1/2 ..	..	..	0 13 0 .. 0 2 0 Feb. 1865	..
300 Parys Mines (copper), Anglesey [L.] ..	50 0 0 ..	..	..	..	135 0 0 .. 12 0 Jan. 1865	..
1123 Providence (tin), Uny Lelant [S.E.] ..	10 6 7 ..	31 ..	30 32 ..	..	76 5 0 .. 1 0 Feb. 1865	..
30 Silver Rake Mining Company ..	280 0 0 ..	..	..	..	— 2 10 0 Dec. 1864	..
512 South Caradon (cop.), St. Cleer [S.E.] ..	1 5 0 ..	..	..	..	— 100 0 .. 1 0 Feb. 1865	..
4000 St. Day United (tin), Redruth ..	14 0 0 ..	..	..	..	— 5 0 0 .. 5 0 Mar. 1864	..
940 St. Ives Consols (tin), St. Ives ..	8 0 0 ..	..	..	..	— 490 10 0 .. 0 10 0 May. 1864	..
6000 Tincroft (cop., tin), Pool, Illogan [S.E.] ..	9 0 0 ..	15 1/2 .. 15 ..	..	..	— 16 1 0 .. 0 10 0 Dec. 1864	..
6000 West Bassett (copper), Illogan [S.E.] ..	1 10 0 ..	..	..	..	— 26 3 0 .. 0 5 Jan. 1865	..
8000 W. Chiverton (ld.), Perranzabuloe [S.E.] ..	..	62 ..	57 1/2 .. 62 1/2 ..	..	— 4 10 0 .. 15 Feb. 1865	..
258 West Damas (copper), Gwennap ..	38 10 0 ..	..	..	..	— 53 10 0 .. 1 0 Nov. 1864	..
400 W. Wh. Seton (cop.), Camborne [S.E.] ..	47 10 0 ..	195 ..	180 190 ..	..	— 425 0 0 .. 4 0 Feb. 1865	..
512 Wheal Bassett (copper), Illogan [S.E.] ..	5 2 6 ..	105 ..	100 105 ..	..	— 606 10 0 .. 2 0 Feb. 1865	..
512 Wheal Jane (silver-lead), Kea ..	3 10 0 ..	..	6 7 ..	..	— 15 0 0 .. 0 10 0 Aug. 1864	..
4295 Wheal Kitty (tin), St. Agnes ..	5 4 6 ..	..	..	..	— 2 6 6 .. 0 3 0 Feb. 1865	..
1024 Wheal Kitty (tin), Uny Lelant [S.E.] ..	2 0 6 ..	..	..	..	— 10 2 6 .. 0 7 6 July. 1864	..
1024 Wh. Mary Ann (ld.), Menheniot [S.E.] ..	8 0 0 ..	..	..	..	— 59 17 6 .. 0 10 Mar. 1865	..
100 Wh. Mary (tin), Lelant ..	86 2 6 ..	..	..	..	— 288 5 0 .. 4 0 Mar. 1864	..
80 Wheat Owles (tin), St. Just, Cornwall 70 0 0 ..	..	..	..	..	— 343 3 0 .. 5 0 May. 1864	..
396 Wheat Seton (tin, copper), Camborne ..	58 10 0 ..	202 1/2 ..	200 205 ..	..	— 191 15 0 .. 4 0 Feb. 1865	..
1040 Wh. Trelawny (sl., ld.), Liskeard [S.E.] ..	5 17 0 ..	20 ..	19 20 ..	..	— 81 10 0 .. 0 12 6 Mar. 1865	..
7000 Wicklow (copper) [L.], Wicklow ...	2 10 0 ..	..	..	..	— 14 17 0 .. 0 6 0 Oct. 1864	..

* Dividends paid every two months. † Dividends paid every three months.

BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last paid
240 Boscean (tin), St. Just ..	20 10 0 ..	..	..	..	36 10 0 .. 1 0 0 Mar. 1862	..
3000 Chiverton (lead), Fernanzabuloe [S.E.] ..	6 0 0 ..	6 1/2 .. 6 ..	..	..	— Yearly.	..
286 Condorrows (cop., tin), Camborne ..	76 10 0 ..	55 ..	47 1/2 .. 52 1/2 ..	..	85 0 0 .. 2 0 0 June. 1867	..
2450 Cook's Kitchen (copper), Illogan ..	18 5 9 ..	6 ..	6 6 1/2 ..	..	1 7 0 0 .. 0 7 0 May. 1862	..
1024 Copper Hill (copper), Redruth ..	12 0 0 ..	..	..	..	2 7 6 .. — Sept. 1862	..
1058 Craddock Moor (copper), St. Cleer ..	8 0 0 ..	..	..	..	7 12 0 .. 0 4 0 July. 1862	..
4078 Devon and Cornwall (cop.), Tavistock ..	6 6 3 ..	..	..	..	— 10 0 0 .. 0 2 8 Feb. 1865	..
12800 Drake Walls (tin, copper), Calstock ..	2 1 0 ..	..	..	..	— 18 0 0 .. 1 6 0 May. 1863	..
3000 Dwyngwym (lead), Wales ..	12 6 6 ..	..	..	..	— 17 6 0 .. 0 2 6 June. 1862	..
940 Fowey Consols (copper), Twardreath ..	4 7 6 ..	..	..	..	— 41 9 0 .. 0 2 6 June. 1862	..
6000 Great South Tolme (copper), Redruth ..	0 14 6 ..	2 1/2 ..	2 2 1/2 ..	..	7 18 6 0 .. 0 5 0 Dec. 1861	..
10240 Gunnislake (Clitters' Adit) (copper) ..	0 2 0 ..	..	..	..	— 3 0 0 0 .. 1 6 0 Mar. 1862	..
160 Levant (copper), St. Just ..	2 10 0 ..	..	..	..	— 109 1 0 .. 0 5 0 May. 1862	..
640 Mount Pleasant (lead), Mold ..	4 0 0 ..	..	..	..	— 18 18 1 0 .. 7 6 Aug. 1862	..
6000 Oresd (lead), Flintshire ..	0 0 8 ..	..	..	..	— 10 10 0 .. 1 0 0 Nov. 1862	..
6400 Par Consols (cop.), St. Blazey [S.E.] ..	1 2 6 ..	..	..	..	— 36 10 0 .. 2 0 0 Feb. 1862	..
1772 Polberro (tin), St. Agnes ..	15 0 0 ..	..	..	..	— 7 19 6 0 .. 0 10 0 Nov. 1862	..
612 Polbrean (tin), St. Agnes ..	8 0 0 ..	..	..	..	— 1 0 0 .. 1 0 0 July. 1863	..
6000 Rosehill Hill and Ransom United ..	3 1 0 ..	..	..</td			